The Pacific Coast Architect

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THE PACIFIC COAST ARCHITECT

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EDITORIAL

Architects Are Held Responsible

Discussing fire hazards in schools, and plans to avoid them, several writers recently gave especial emphasis to their convictions as to the responsibility of architects. Nothing was said about the limitation, by inadequate appropriation, of the efforts of architects to provide the safest possible structures.

"Architects," says a writer in Safety Engineering, "have the greatest knowledge of planning and construction, they know the fire-resistance of materials and have the greatest chance in planning new buildings to convince the committee in charge of the necessity of the best protection against fire. It is to the interest of every architect that his building shall be constructed in the best possible way and that his public shall know why it is the best. In case of accident due to poor arrangement it is the architect who receives well-deserved public censure."

In his next sentence, this writer, Frank Irving Cooper, a Boston architect, says that "even Boston" builds outlying schools of second-class construction. But he reiterates:

"An informed and awakened public will demand that an architect shall design school buildings to meet the demands of educators and protect the lives of the school children. When the law holds him criminally responsible for faulty planning and construction, reform will be immediate."

Competition is responsible for many shortcomings. This and restricted expense, hurry to build schools before communities feel able to provide the best; and the various ideas of school board members, are much oftener the cause of fire hazard in schools, than lack of foresight, equipment for the work, or ability, or lack of ordinary interest in human welfare on the part of the architect. Give him a chance and he will provide a building in which fire will have almost no chance at human life.

Important Building Law Now Effective

An amendment to the building laws of Boston, Mass., of wide-spreading importance, goes into effect early in August. The new provision reads: "No material other than Brick, Tile, Slate, Metal, Asbestos Shingles or Slag shall hereafter be used to cover or roof any building, or the tops and sides and outsides of the frames of any dormer window, or any projection of the roof of any building except wooden cornices or wooden frame buildings, but on flat roofs composition or tar and gravel may be used or such other quality of fire-resisting roofing as the commissioner may authorize."

To the person uninformed and not conversant with such matters, this ruling might appear to be a very simple matter, but to those persons interested in fire preventative methods, it will be received with considerable pleasure. As a matter of fact this amendment to the building laws of Boston is a reform of vital importance and, as such, is worthy the consideration of all persons interested in building activities.

It is unnecessary to state that fires, as a rule, do not start from the tops of buildings, but once let a fire get under headway and it travels across the rooftops at express speed. Sparks and embers that lodge in a high wind, and in dry shingles, quickly ignite. Just a small blaze, started in this manner, will tear through a wooden frame and shingle district in less time than in any other possible way. The roofs furnish the headway and the roofs—the kind that the Boston authorities have forbid—are alone to blame for the rapid spread of some of our great conflagrations of recent years. We have in mind a number of such fires; fires that have started and spread untold destruction, from catching in the easily inflammable roofs of certain sections.

The prevention of fires is a problem that is occupying the attention of municipalities all over this country. This new law of the Boston building board will at once impress and appeal to the authorities of such communities.

Worthy of mention at this time also, is the stringent rules of the City of New Orleans. Here's a city that has even gone a step beyond Boston. It forbids even the patchwork upon roofs already built of wooden shingles to be of that material.

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Brick Veneer For Residences

Present residence construction is generally tending toward wood veneered with some more permanent material. Brick for this use seems to be the best material. When laid up well it does not show cracking to catch dirt and allow the ingress of storm water. It may be varied into many designs and surely gives the most substantial appearance. It needs no paint and has superior lasting qualities. In all, structurally and architecturally, it cannot be equalled by any material used in present building practice.

Competitions Cause of Big Annual Loss

Increasing cost in the preparation of competition drawings, and of sketches, is a source of no small worry to the architects of this country. Only recently the drawings submitted in the New York County Court House competition are said to have cost each competitor over $5,000 each, representing in bulk a total outlay of over $250,000 by the competing architects—an absolute waste of money.

This comes pretty near reaching the high water mark for such figures, and if the tendency for such financial waste continues to increase at the pro ratio of the past few years, we'll certainly hold our breath in figuratively discussing future competitions.

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Salem Rebuilding Commission Is Busy

The Rebuilding Commission of Salem, Mass., has adopted rules forbidding the erection of wooden buildings more than two and a half stories high in the fire district. Even this class of construction must have fireproof roofs, metal gutters and plastered cellars. The commission is also giving considerable thought to the construction of factory buildings and has issued an order to the effect that hereafter structures for factory purposes must be of fireproof construction throughout. They must be rated first class and of semi-fireproof construction even outside the fire district, with self-sustaining fire-resisting walls and fireproof roofs, gutters and basements.

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Record of School Fires in This Country

Building officials of New York City have issued a comprehensive volume of nearly three hundred pages, with charts presenting the results of extensive investigations in this country and abroad. Definite facts concerning the buildings of New York City are set forth in interesting array, together with comparative conditions in other cities. This investigation opens a new line of community study and should prove of value to interested municipalities.

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An Organization of Real Influence

The Builders Exchange has been likened unto a clearing house in that it serves this purpose for the vast amounts of capital expended annually for constructive purposes.

There can be no doubt about the importance of such a body to the growing community. It stands for honesty in all things. The integrity of a firm or individual must be unquestioned before they can aspire to membership in such an organization; the business transactions of such aspirants must be legitimate, open and above board.

Builders Exchanges are said to be often misunderstood regarding their stand on the labor question. When such an organization expends activity and interest along this line, it is not because of any opposition to labor itself; its endeavors first and foremost are to stabilize and more generally equalize the wage for efficient labor. Hence it stands against the "closed shop."

At heart, the officials of the average Builders Exchange hope and work for the betterment of labor conditions. Let no man misunderstand the influence for good that a Builders' Exchange excites in any community. It is more often working for the permanent welfare of that town or city wherein it may be located, than the average person has any conception of.

An Interesting and Comparative Report

An interesting compilation of figures, enumerating a list of school fires has been recently published, covering that period since the year 1911.

It is to be noted that the approximate loss per year of such fires exceeds $3,000,000, while the individual loss per school averages $25,000.

Despite the modern fire-fighting methods of this twentieth century, the annual loss by fire is increasing, rather than diminisihng. Of course this does not indicate a fault in the activities of our fire-fighting departments, for it must be remembered that the total physical valuation of school properties appreciates materially with the passing of each year. However, it does show the need for more efficient preventative methods.

It is surprising to learn that it is not in the public schools that fires are most frequent. Out of 265 fires counted in a period of twenty-seven months nearly sixty percent were in private schools and colleges. Estimates of the frequency of fires are as high as ten a week. It has been said that a school, college or some sort of an educational building burns, or partially burns, each day in a school year.

But to return to the necessity of better preventative methods, let us first consider the statement of an investigating board which declared that fully one-half the school buildings in certain of our states were totally unfit for use in one way or another. Large numbers of schools were pronounced overcrowded, insufficiently ventilated and with unsafe heating apparatus, combustible construction, wooden stairways and doors swinging inward.

It stands to reason that all the fire drills ever invented would not compensate for errors in building design and construction. Fire drills are efficient—they have to be in view of the construction of certain of our educational institutions. But does that justify quick-burning constructions in the school houses?

Judging from the above-mentioned report and statements of our leading architects it would appear that the chief blame for these conditions would lie in the privilege that some persons have in putting up four walls with a filling of wooden timbers, joists, boards and what not and then "put it up" to the children or students to get out safely in case of fire. And then again some people have the notion that just so long as a safe exit be made it does not matter if the building burns.

We all know what the remedy is; there is little use in discussing it. The architect who specializes in school construction is, assuredly, familiar with the proper fire-fighting apparatus, to be embodied in the construction of school houses. If he hasn't that knowledge—well, he ought to seek another vocation. But it is not our intention to discuss this side of the question. In fact, we have doubts whether or no we can discuss it. The point is, however, that "the barn should be locked before the horse escapes."

Regarding the old buildings that now stand, it should be the duty of every community to make some adequate preparation for the safety of the occupants in case of fire. When we say adequate we mean just that word and not the definition that some people put on it, as reflected in the fire-fighting apparatus used in those schools of which one burns down every day.

What to do with the old school houses is answered by one architect, who says:

"In reference to old non-fire resistive school buildings, I think that the simplest and easiest, also the most effective protection to insure the inmates against danger from fire would be automatic sprinkler equipment."

Architectural Style for the School Building

William H. Weeks, Architect.

No other public edifice so intimately concerns so many people as the Public School Building. This is largely due to the general interest in the child life of the community and his training.

In this connection it is well to remember that environment should not be underestimated; a poor environment works toward the stagnation of the mind, while a good environment is at once uplifting and a stimulus to improvement. It is important that the brain of the child be developed through proper training and teaching, but not more important than the eye which should be trained to a higher appreciation of the beautiful in nature and art.

Thru his senses a child acquires knowledge; thru his senses he develops individuality; by surrounding him with the best and most beautiful in nature and art, we can find no more simple form of expression, and no better medium to express the beautiful in architecture, than the Public School Building. In addition, as a child passes thru the various stages of his development, he should be kept in close touch with the best available examples of architecture, as well as the Sciences and of Literature.

Beautiful architecture expressed in a beautiful school building is an important factor in the child's education. The school buildings found in a community, inside and around them, proclaim to the observing the condition of the people, both intellectually and financially, and a sure index of their lives. Aside from the educational value to the child, good architecture is one of the greatest assets in the building up of a community, adding to the civic pride and making a favorable impression on the home seeker.

The important problem, then, is the selection of the design for the new building that will fulfill all requirements of style and arrangement for the success or failure of the finished structure, when judged by the best standards of school work.

The controlling element of any school building is the Class Room and its approach; therefore, all else in a general way must be subsidiary to them. With this in view a style should be selected that will permit of proper orientation and elastic enough to be readily adjusted to the requirements of the arrangement. It is unwise to use any style slavishly; and any style not sufficiently elastic to be adjusted, without loss of symmetry, to modern school requirements.

The selection of the styles best suited to the school building will depend largely on the type of building, location, and its importance as compared to other buildings in a community.

The styles most popular at the present time are Classic and Gothic, and, in our own State, Mission. An historical style is more appropriate for the school than original types that are usually short lived and seldom bear repeating.

To the sacred architecture of Greece, as seen in their beautiful temples, and expressed in its three orders, are we indebted for the best and the purest canons of architecture that the world has ever produced—for hundreds of years the admiration and inspiration of the great architects and are lovers of the world. The refining influence of the beautiful Greek Orders is found in most of the great buildings of the world. No other style can suggest so much to the plastic and romantic mind of the young than this chaste and beautiful one which adapts itself so well to the school building of the better class.

The Gothic style, which did not reach the zenith of its elastic loveliness until the Fourteenth Century, is young compared with the Classic, yet filled with history and romance. In the popular mind Gothic architecture is usually associated with the church edifice, seldom realizing that most of the greatest and finest educational institutions are built in this style. For the University or large school it cannot be excelled as a successful medium—moulding itself so well to the requirements of the modern school.

The so-called Mission style of architecture used in many California school buildings is distinctly Californian. It partakes of the history of the State and is part of it. It is beautiful in its simplicity, admirably suited to our climate, difficult at times to adjust to school requirements. It has been used very successfully in many one-story types of building, but in the higher buildings for school uses, the problem has proven more difficult and seldom is a satisfactory example to be found. This style has been shamefully abused; every monstrosity of plaster and tin without a name has been listed in the ranks of "Mission." The cheap imitation has almost brought this fine California style into disrepute. This is unfortunate, for there are wonderful possibilities for the designer in the adapting of Mission to the finest schools of the State.

The designer confining himself to these styles, with their kindred styles, can find sufficient inspiration to produce the finest type of building.

In regard to the original styles advocated by some architects, there is no disputing the fact that a number of our architects have produced some fine examples, pleasing in outline and well adapted to the school needs. They are, however, much like many new songs—catchy at first, but soon tire on repetition, and not like the old-fashioned songs that never grow old, but take on new charm with the years—and in the hands of great artists can be made a never-ending source of delight.

School Room Lighting

By Charles T. Phillips, C. E.*

Each step in human progress has been marked with a corresponding advance in artificial illumination. It has become such a vital ,necessity that the elimination of gas and electric light would send civilization backward a far distance.

Higher averages in education are no doubt due to cheap artificial illumniation. The worker who is busy during the day has his nights for study. To the public and private schools that hold night classes, the advantages of the proper application of artificial light are obvious.

In the lower grades, where the habits of life are more readily formed and the various organs of the body are developing, the eye may be started on its way toward defective vision. When this organ is strained by continuous activity under an illumination either artificial or natural, which is either too low or too high, and to which may be added glare effects, the eye gradually dev-

*Consulting Engineer. Pacific Building. San Francisco.

iates from its natural development until it requires for normal vision artificially prepared abnormal conditions.

Many states and cities make it compulsory for school children to have their eyes examined, but, to the writer's knowledge, very little effort has been made to remedy the source of the majority of eye trouble. That remedy consists of the proper lighting of class rooms and assembly halls.

School Room With Indirect Lighting

In several states there are laws in force governing factory lighting, and there are eleven additional states that have at least something in their factory codes referring to factory lighting. It would seem then that if the proper lighting of the work shop is of such importance as to render legislation necessary in its behalf, the same consideration should be given to the school room. The factory owner realizes that his output can be increased by the installation of a system of illumination designed along scientific lines, and there are very few of the modern factories that have not taken advantage of this knowledge. The school officials could well apply this same knowledge to the class room, thereby increasing the mental efficiency of the pupil and instructor.

The services of an illuminating engineer, in connection with the design of class rooms and assembly halls, would save hundreds of pupils the burden of defective sight throughout their life. The conservation of vision should be one of the first considerations in school design, but this important item has apparently been given very scant attention. A thorough knowledge of illumination embraces many subjects, and although a thorough knowledge of physical laws is necessary, an understanding of optics is of far more importance. Being concerned in aiding vision, a knowledge of the functions of the eye is necessary. It is then manifestly illogical, in studying illumination and illuminating systems, to confine the attention to physical conditions alone. Phenomena of physiological optics should be thoroughly understood, and the illuminating engineer's education is not complete without this understanding.

In designing a system of class room or assembly hall lighting, the illuminating engineer has many points to consider, and they may be roughly subdivided as follows: the production of light, the distribution of light, the physiological effects produced by light, and the associated psychological phenomena.

How often do we find beautifully designed school structures, splendidly equipped, but with abominable means of illumination. There is no excuse for this condition since the advent of the professional illuminating engineer, and the many satisfactory devices and appliances now available, together with the skilled application of same, to any problem of school lighting.

Efficiency in light distribution should be considered, not only as to reducing the sum expended for electricity or gas, but to decrease the amount of heat generated by the light source. The heat generated is the thermal equivalent of the energy consumed, less that expended in producing visible radiation, the latter quantity being between 2 and 10 per cent.

The reduction of specular reflection from polished and varnished surfaces in the class room should be given attention, and the same would apply to the glossy paper upon which text-books are printed. The average reader notices with annoyance the glare and lustre from printed pages, especially those upon which half-tone illustrations appear, but he does not realize that more time and effort is consumed in reading and the resultant eye strain is greater than would be if the paper did not have this polished surface.

From tests made in Philadelphia, under the direction of the Board of Education, it was found that an intensity on the reference plane of 2.25 to 2.50 foot candles, using a semi-indirect system of lighting, the efficiency was the highest of several systems and intensities.

The lighting in this case was done with gas, as the school building was not equipped with electric wiring. The readings were made with a Sharp-Miller Photometer and the surface brightness measurements were made with a Lumeter.

In the course of an investigation into the defects of vision among school children in Liverpool, it was found that the vision was better among children attending well lighted schools than among those who attended schools where the lighting was less satisfactory.

Dr. T. A. Woodruff, M. D., in the Illinois Medical Journal, states that the foundation of subsequent eye disease is frequently laid in our schools. Defective vision and eye strain are the causes of many physical maladies, which generally render the child dull and mentally incapable of performing the ordinary school task. The proper lighting of schools would tend to eliminate, to a great extent, this common defect.

It is hoped that in the future that the services of an illuminating expert will be secured in connection with the design of school buildings. The cost of his services will be more than saved in the reduced cost of the installation, but the protection to the pupils' eyes should be the first consideration.

Brick in School House Work

By Nathaniel Ellery, C. E.

The test of time has placed good brick work in the fore rank of modern construction. It long, long ago passed the experimental stage and became a standard material. Passing through the many phases of the vagaries of the builder, it again emerges as the modern standard.

In school house work we look for a fire resisting material, a decorative material, a good structural ma-

terial, and in these particulars it splendidly fills the bill. The school house of today should be made of the best fire resisting material extant, and to slight or ignore this feature is little short of criminal. We know without argument brick is the material made by fire and capable of withstanding intense heat. If it be well placed and the other parts of the building are in accord fire will not destroy such a structure.

Should you desire to build a furnace—a heat generating plant, you immediately turn to brick as the material suited for use. The layman knows this, the expert knows it. Then to build the best fire resisting building —build with brick.

We have not yet advanced to a point in building construction where we can employ any other material with equal safety in this regard. Therefore brick stands supreme in this most important position. In the great conflagration in San Francisco in 1906 there stood many monuments in steel and brick, which were grim reminders of good judgment, workmanship and good materials. One has but to look at the photographs taken shortly after that fire and pass judgment. The test was the most severe of any time and yet the good work stood splendidly and the bad work failed. No greater trial need be had to convince of the high efficiency of brick as a heat resistant.

From the architectural view point the great many possible textures, colors and designs to be had in brick and terra cotta extend to the designer a wonderful field for his talents.

Burned clay again defies competition and stands out as a material of the highest architectural value. What cannot be done in brick and burned clay decoration? A study of our best buildings will clearly show the vast field for endeavor and the opportunity to enhance the artistic features of our structures.

To California, there should be pride in its school houses. They should be of good design and artistic in treatment. The opportunity is here for splendid work in brick and terra cotta.

The present day clay products manufactories meet the demands of the architect and turn out materials of many colors and textures, and structural fitness.

The many beautiful school houses of San Francisco erected of brick after the fire, attest this fact. Could our school boards step into the show rooms of our face brick manufactories there they would see the display of the immense possibility in good school work. Structurally, brick is superior for exterior wall work. Set in good cement mortar well burned brick makes for a masonry as if of solid stone. It resists the stresses equal to any material and does not when on proper foundation crack or give as many other materials do. It can be made water proof through the selection of the brick and the proper workmanship. While to paint brick work is to destroy its appearance.

The time required to build with brick is much shorter than other permanent materials. Personally I have watched the wrecking of many old brick structures and have always noted where good materials and work prevailed there was a substantialness unsurpassed by any other material while in homogeneousness it far excelled its competitors.

Throughout our state today we find many frame or wooden structures serving the school children. Do you know that by adding ten or fifteen per cent to the cost of many of these you could build of brick, thus securing greater safety. The clay materials may be had in nearly every community and under modern methods of making at very reasonable figures. In the valleys of the state during the summer months there is need for discretion in selection of material for the building of school houses. Again, brick resists better than other materials the passage of the heat from the outside and in winter it also resists better the cold from the outside. This feature may seem of minor importance, but it most assuredly has its place in studying out a building scheme, and should not be overlooked.

Structures for schools are usually of small height and therefore do not require steel frame, but the acme of present day construction is the frame of steel clothed in brick and ornamented in face brick and terra cotta.

To the San Franciscan there was the old Palace Hotel of brick structurally used which stood magnificently in 1906 and there is the present steel and brick structure of splendid design. This San Francisco monument exemplifies modern brick usage. Frequently in school building work there is necessity for change after construction and it is here brick walls serve the highest value. They being of unit construction may be altered with less cost and better workmanship. There is no need for lack of bonding of the work of non-continuity. To those who have had the experience of these changes the fact is a pertinent one of more value than at first thought. Taking a general view of the subject there is much to recommend the use of a material adapted by tests.

We are not experimenting when we build our school structures of brick and we are getting full value when we select a material having no equal for the work.

At this time in construction when many fads and fancies prevail we should place our confidence in a material of proved merit.

How to Make School Buildings Safe Without Being Built Entirely of Fire Proof Materials

Address given by J. A. Fouilhoux, before the Oregon Civic League at Multnomah Hotel, Saturday, May 16, 1914.

Safety results from careful thought and thoughtful care.

From a study of past disasters we can ascertain the causes of spread of fire and the causes of loss of life and draw from this study a few rules, which, if followed, will help us to obtain safe buildings.

The most serious of school fires in late years has been the one that occurred in Collinwood, Ohio, in March, 1908. In this fire 173 children and two teachers were burned to death. The Russell Sage Foundation which had made an investigation of the causes of the fire and of the conditions that led to the loss of life, gives us the following report:

"The Collinwood school was of brick, with wooden floors and partitions. Doors were double and to left of stairway. They should have been single and directly opposite stairway. Storage closets stood under stairs. Heating apparatus was defective, and cellar was not fireproof. Upstairs wardrobes opened directly into hall, removed from teachers' control. At opposite side of building were open wooden stairs.

"There was no automatic fire alarm, and no signal connection with fire headquarters. Fire was discovered

by a passerby and word sent to local authorities by telephone."

I shall endeavor to take up each point of this report and to show you how our proposed school building ordinance has been framed so as to overcome any defects brought to light in this report.

The walls of school buildings two stories in height are required to be built of masonry, that is either concrete, tile or brick. Such a wall would naturally be fireproof, but the danger would come from the furring.

While from the standpoint of the fire engineer wood furring should not be employed, the difficulty of securing dampproof solid walls, when the plastering is applied directly to the outer masonry wall, and the cost of metal furrings or tile lining, leaves wood furring as the only method for the architect under the appropriation. Wood furrings should be stopped off by plaster at the floor and ceiling and midway between. Even metal furrings should be fire stopped to prevent the spread of fire by draughts or superheated air or flaming gases.

The proposed ordinance calls for the stopping of wood furring by solid plaster at the floor and ceiling level and half way between.

In addition to the exterior wall, division masonry walls will be required so as to divide the floor space into areas of 5,500 square feet or less, thus avoiding the spreading of fire over a large area.

The Collinwood school had wooden floors throughout. Inasmuch as a very large percentage of fires start in the basements of buildings, our proposed ordinance provides for the construction of the first floor to be of strictly fireproof construction. The most dangerous part of the basement from a fire hazard point of view being the boiler or furnace and the janitor or supply room where rubbish, oil, etc., are kept. These rooms will have to be enclosed in eight-inch brick walls and the doors between these rooms and the building are required to be self-closing metal-protected doors. These requirements as to first floor construction and enclosure of boiler and janitor rooms having eliminated a very large percentage of the fire hazard in buildings, it seems reasonable to allow the floor construction above the first floor to be of wood. In order to minimize the fire risk in such a construction it is required to use heavy joists and solid bridging to prevent the quick spread

(Continued on page 119.)

Polytechnic High School

The group of buildings comprising the Polytechnic High School, conceived to meet the ideas and demands of the more liberal education of the present day, has incorporated in its scheme all the elements that make perfect such an institution. Situated in the path of the city's new growth, it is well prepared to care for, to educate, and to train the mind and hand of the new generations that shall grow up about it.

The site of the buildings is of an area 275 feet by 500 feet. The facade of the main building, 350 feet in length, faces Frederick Street, a boundary of the Golden Gate Park. This building, of northern exposure, containing the academic departments, faces the shop buildings in the rear which have their frontage on Carl Street. Space at either end of the academic building allows of adequate general entrances at these points to the school proper, or to the yards and shops behind. Besides the central and main entrance to the building, minor entrances are placed elsewhere leading directly to the basement floor. The yard area is so disposed as to accommodate and segregate the boys and girls, at the same time forming a logical separation between the respective academic and shop units, and yet binding them administratively as one.

The exterior aspect of the group exemplifies their functions; the principal building, of brick and terra cotta, is typical of the large school building; a symmetrical arrangement of large openings to provide adequate light, coincidently meeting the architectural considerations of mass and proportion. The central entrance is enriched with simple architectural features and embellishments which contrast with and accentuate the simplicity, quietness and dignity of the general structure. The shops in the rear, of reinforced concrete, in their work-a-day appearance bespeak their use.

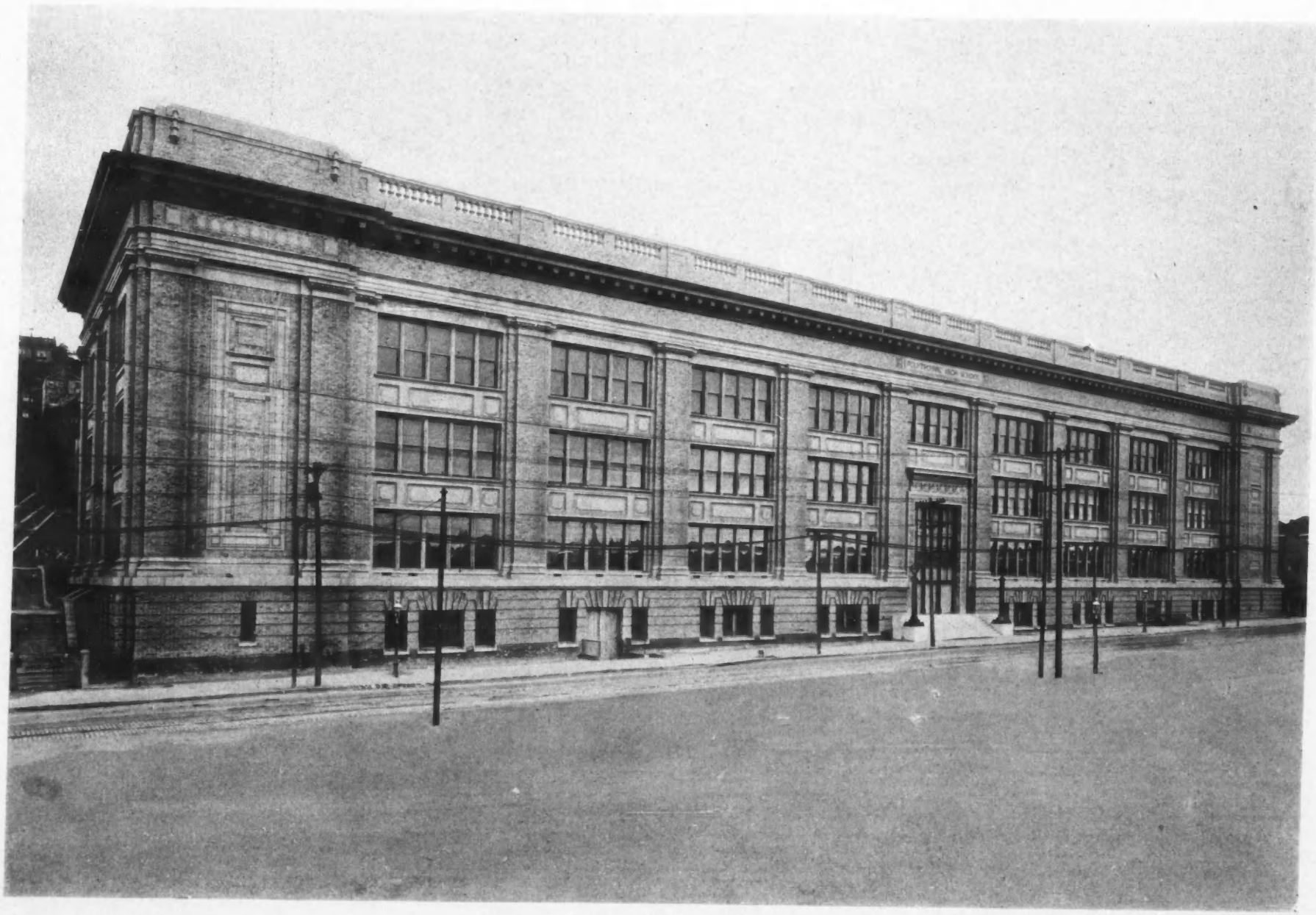
The general plan of the academic school building naturally places the greatest number of class rooms on the northern frontage, with the southern frontage confined to toilet accommodations, stairways, elevators (future), and rooms of lesser importance, and a wide hall lighted at each end, running the entire length of the building. The main stairway, beginning at the main entrance, forms a stair hall throughout the four floors, while two minor stairways symmetrically placed, complete the vertical circulation of the scheme. The position of stairways, the general circulation, toilets, locker rooms, study halls, etc., conveniently and naturally divide the building into two parts for a separation of the sexes, and yet allows the assembling of the students for purposes of meeting and instruction.

The basement is provided with a gymnasium, shower rooms and their accessories, lunch rooms and recreation rooms for boys and girls, besides which general space for the heating and other mechanical appurtenances is liberally allowed.

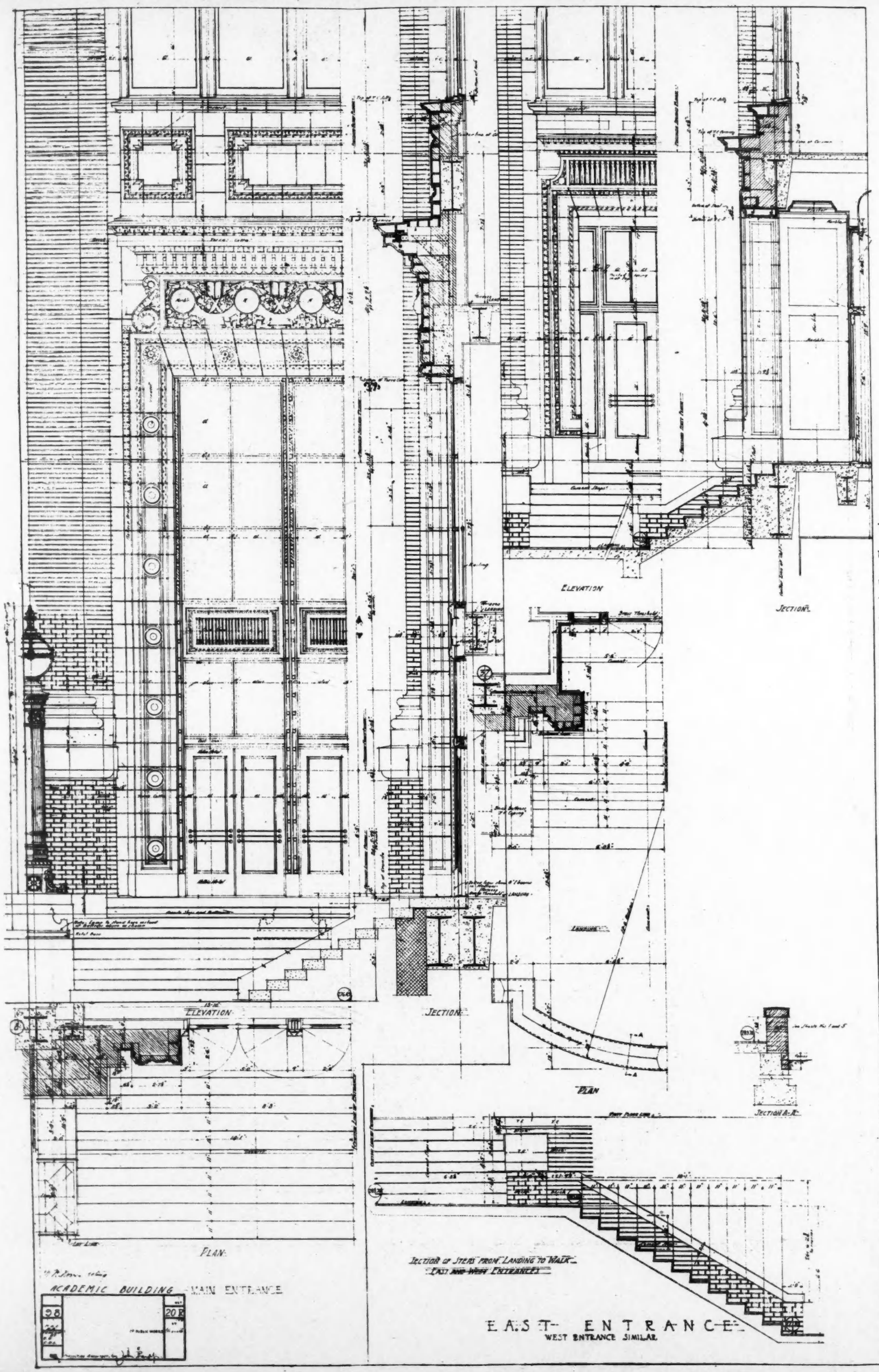
The first and main floor, which is half a story above the sidewalk, contains the auditorium, large enough, including the capacity of the balcony at the second floor, to seat the entire student body of 1500. The general entrances to this room are directly opposite the main entrance to the building, placed with the assumption that the auditorium will be used publicly and at times when the building proper is closed for school purposes; a large stage and its accommodations of ante-rooms, storerooms, etc., should do much to encourage and bring about the desired and greatly discussed neighborhood assemblies which should cause the school to become a part of the life of the parents as well as that of the children. The administrative offices are placed in proximity to the general entrance, and lecture rooms and laboratories complete this floor.

The second and third floors are typical, containing recitation and study rooms. The fourth floor provides class rooms for cooking, sewing, millinery, modeling, wood carving, arts and crafts, all of which rooms are lighted from above.

As a whole, the group, the academic building and the shop buildings behind, seem adequately provided for the needs of the present, and should meet the demands of growth and development of the future. The Polytechnic High School represents a great step forward in the advancement of such edifices, embodying ideas gathered through new thought and from much study of existing institutions of its kind.

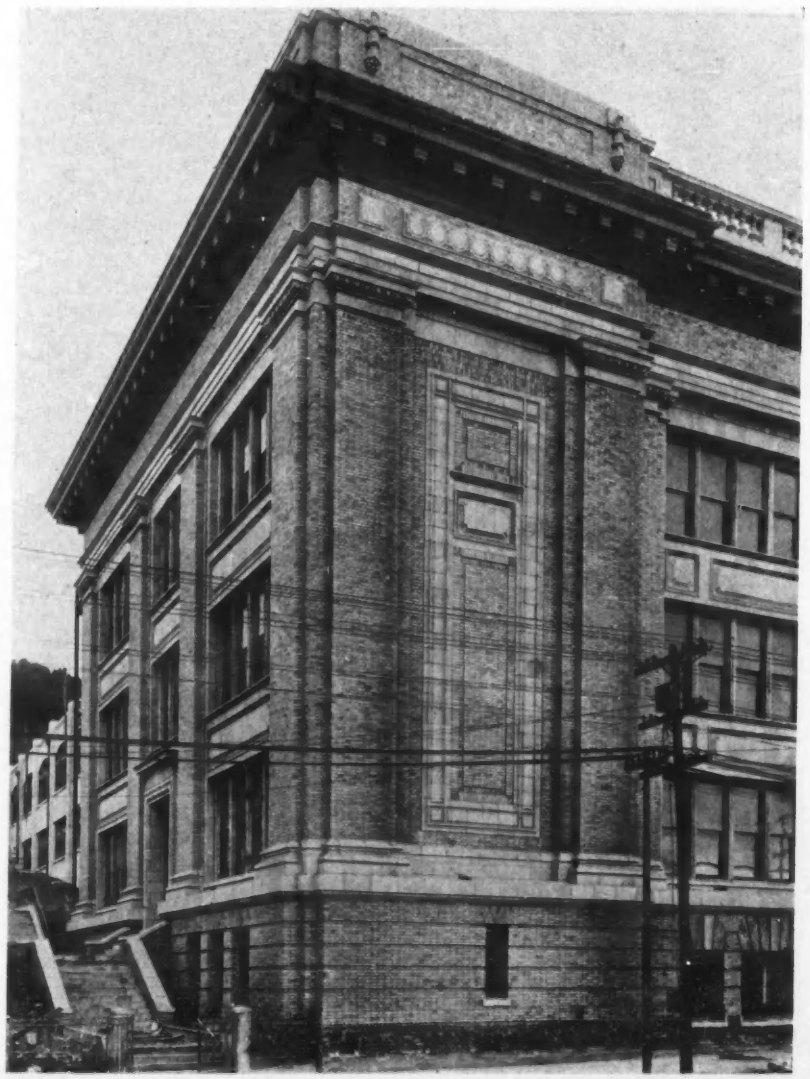


Polytechnic High School, San Francisco
Plans prepared by the Bureau of Architecture, Board of Public Works



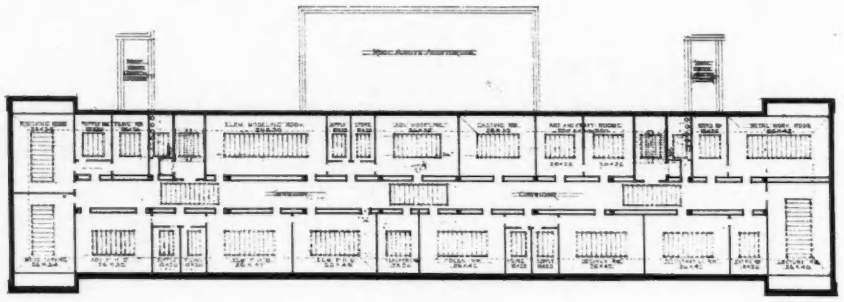
Detail of Entrances Polytechnic High School, San Francisco

Main Entrance

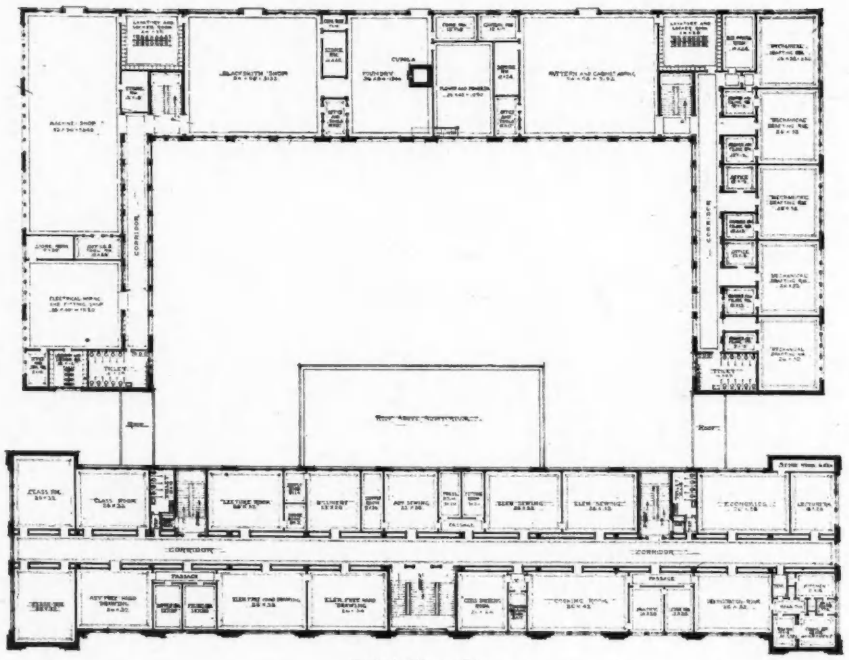


Corner View

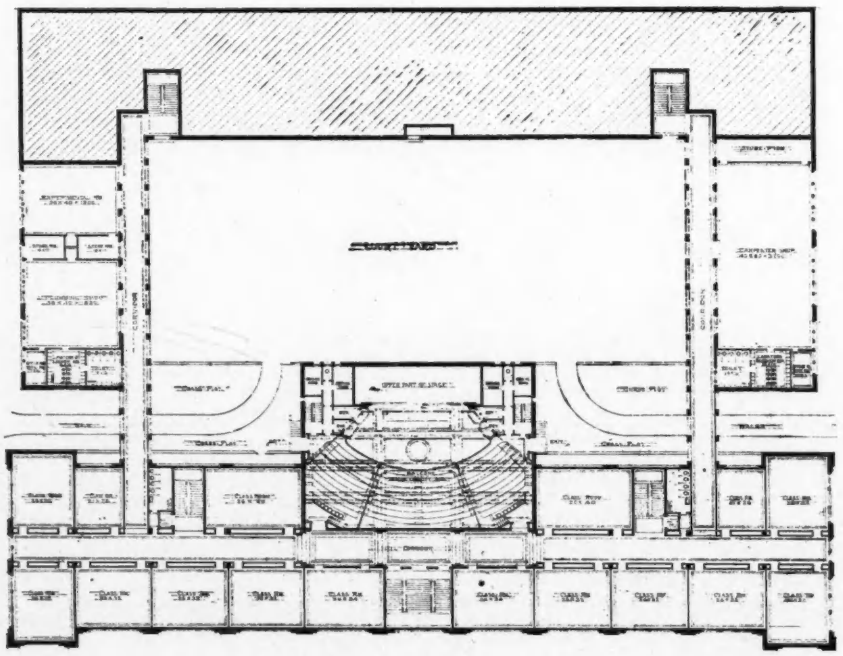
Polytechnic High School, San Francisco



Fourth Floor Plan

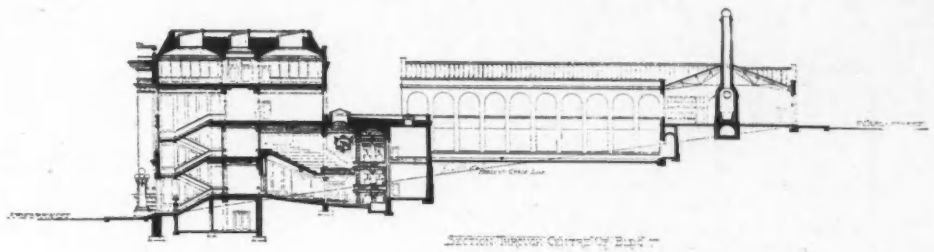


Third Floor Plan

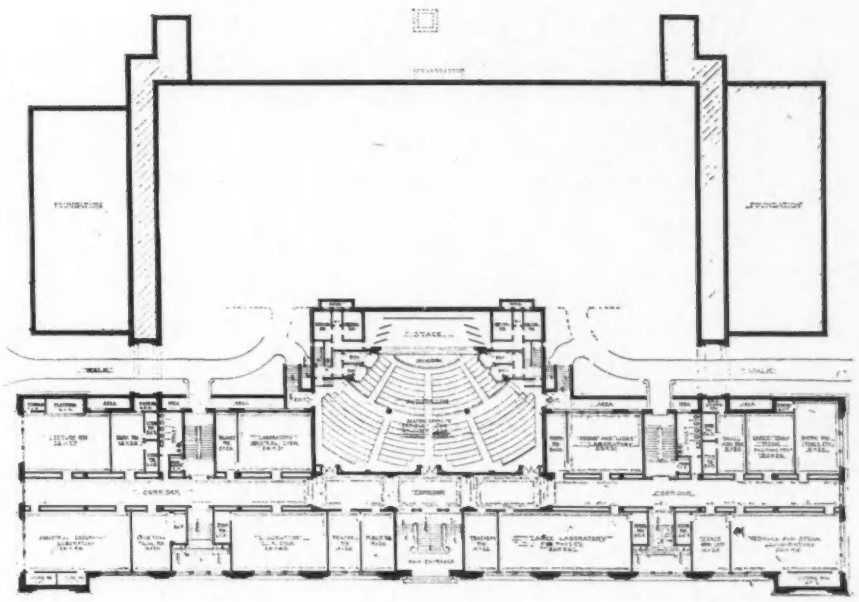


Second Floor Plan

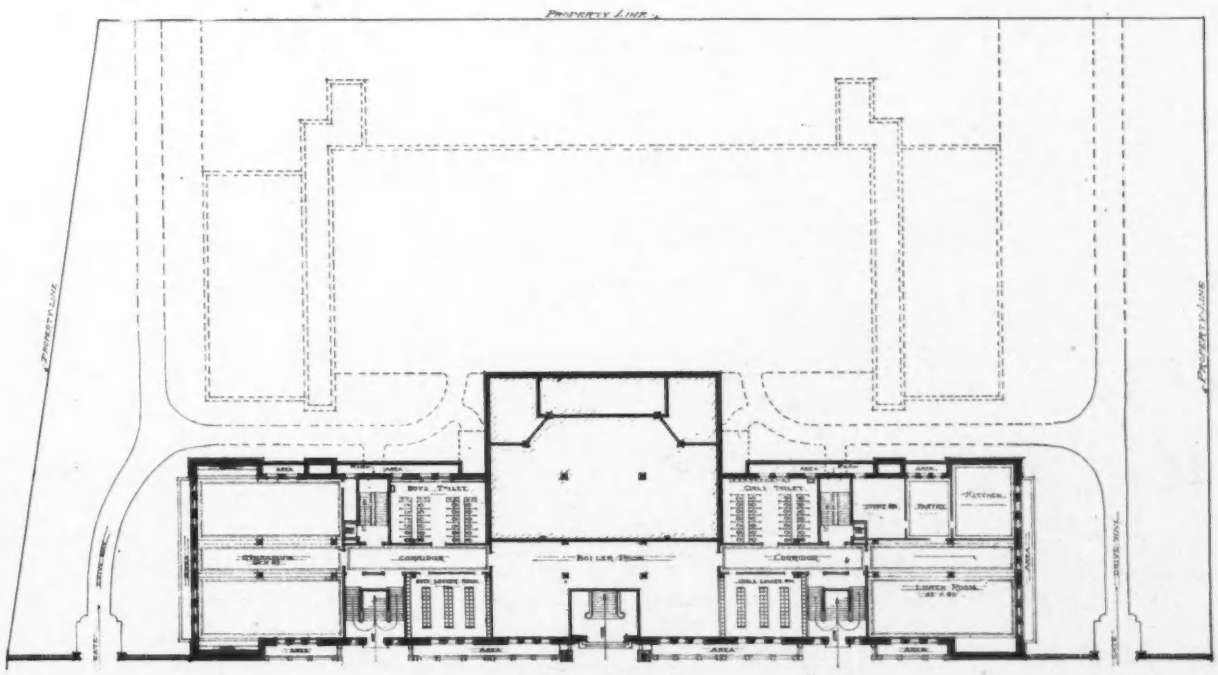
Polytechnic High School, San Francisco



Cross Section

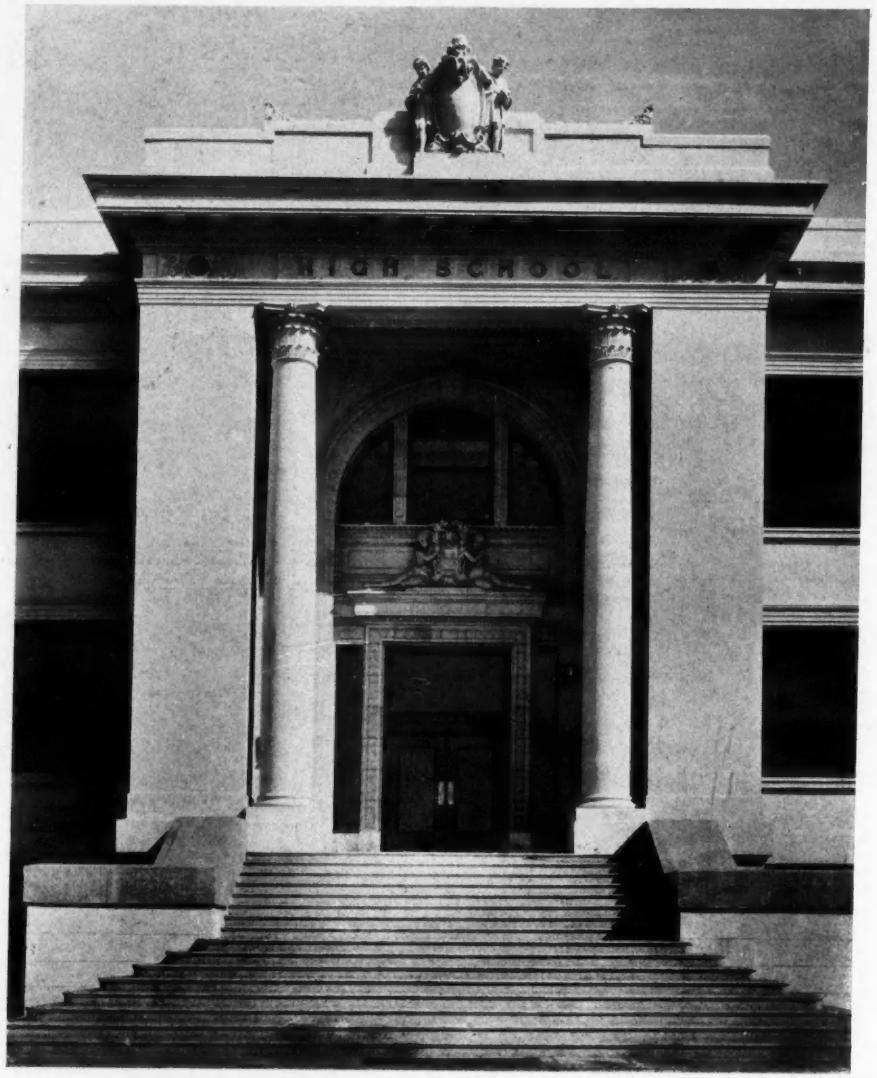


First Floor Plan

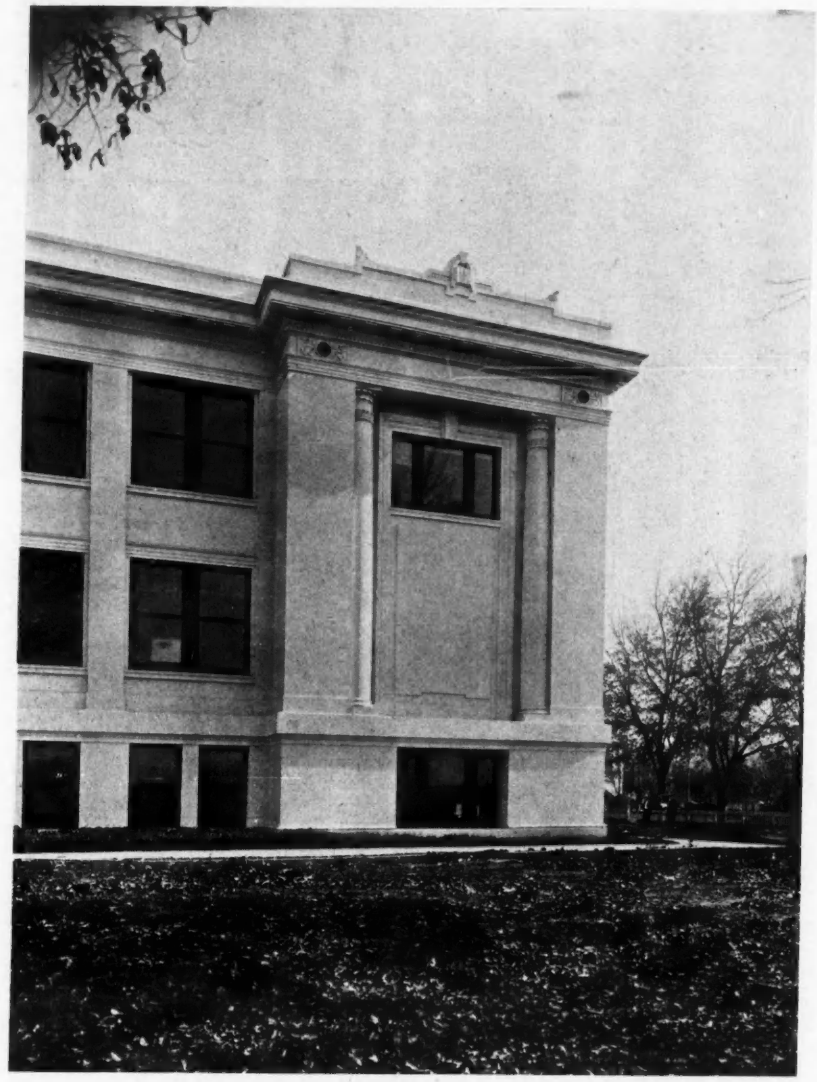


Basement Floor Plan

Polytechnic High School, San Francisco



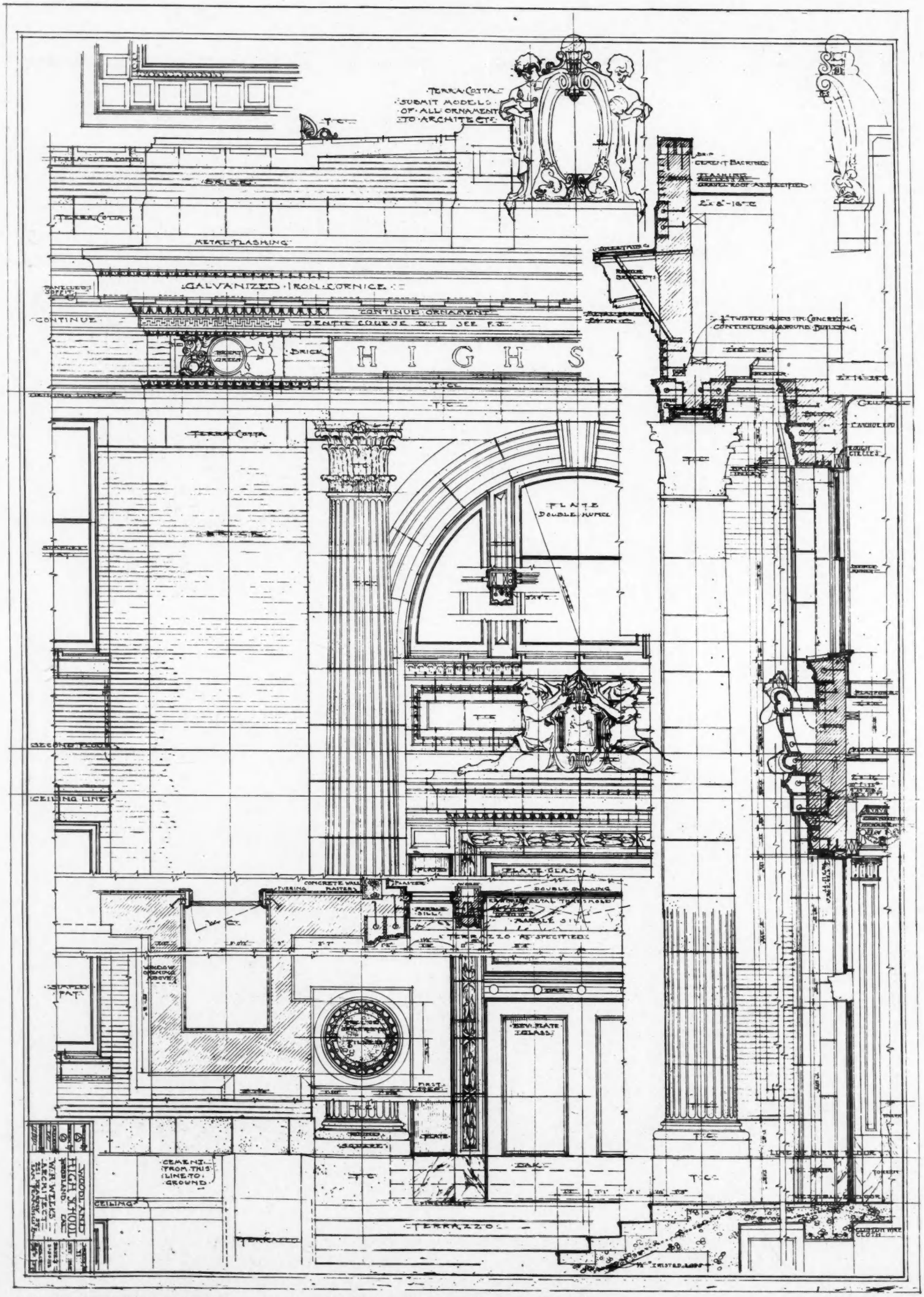
Main Entrance



Corner View

High School, Woodland, California
W. H. Weeks, Architect, San Francisco

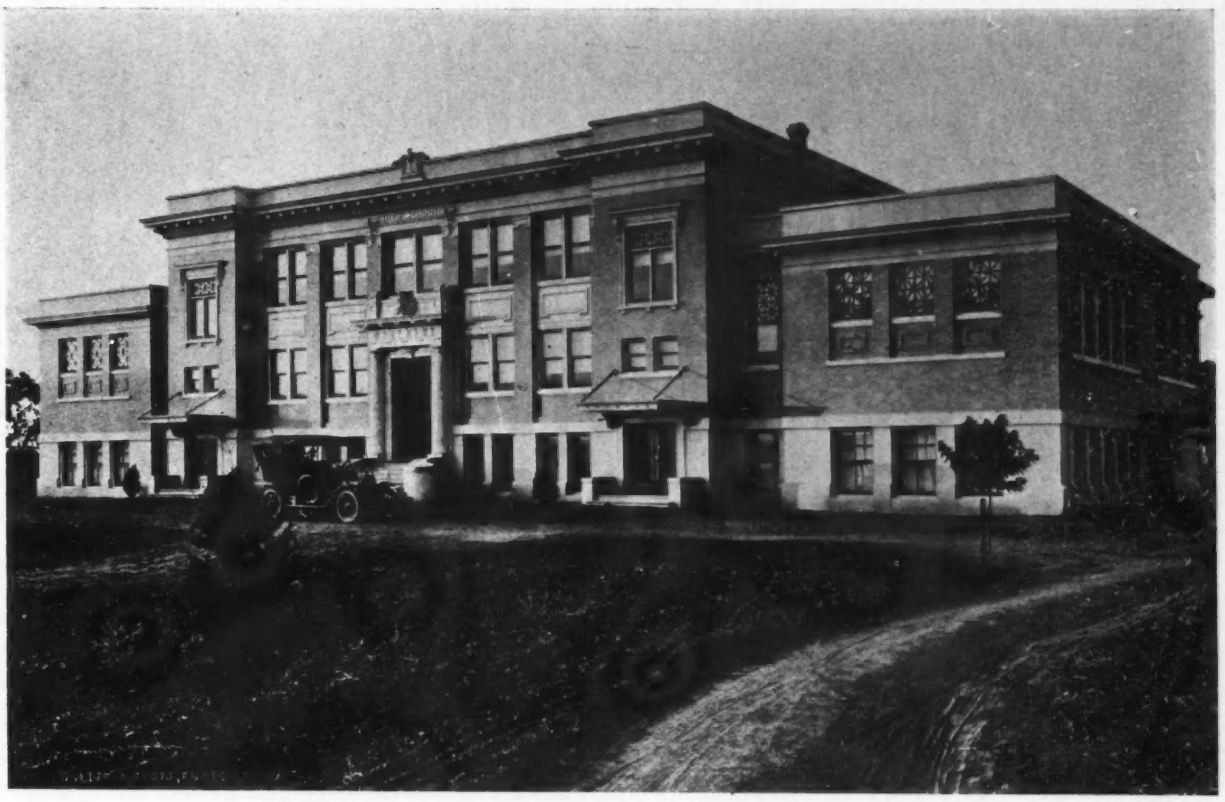
High School, Woodland, California
W. H. Weeks, Architect, San Francisco



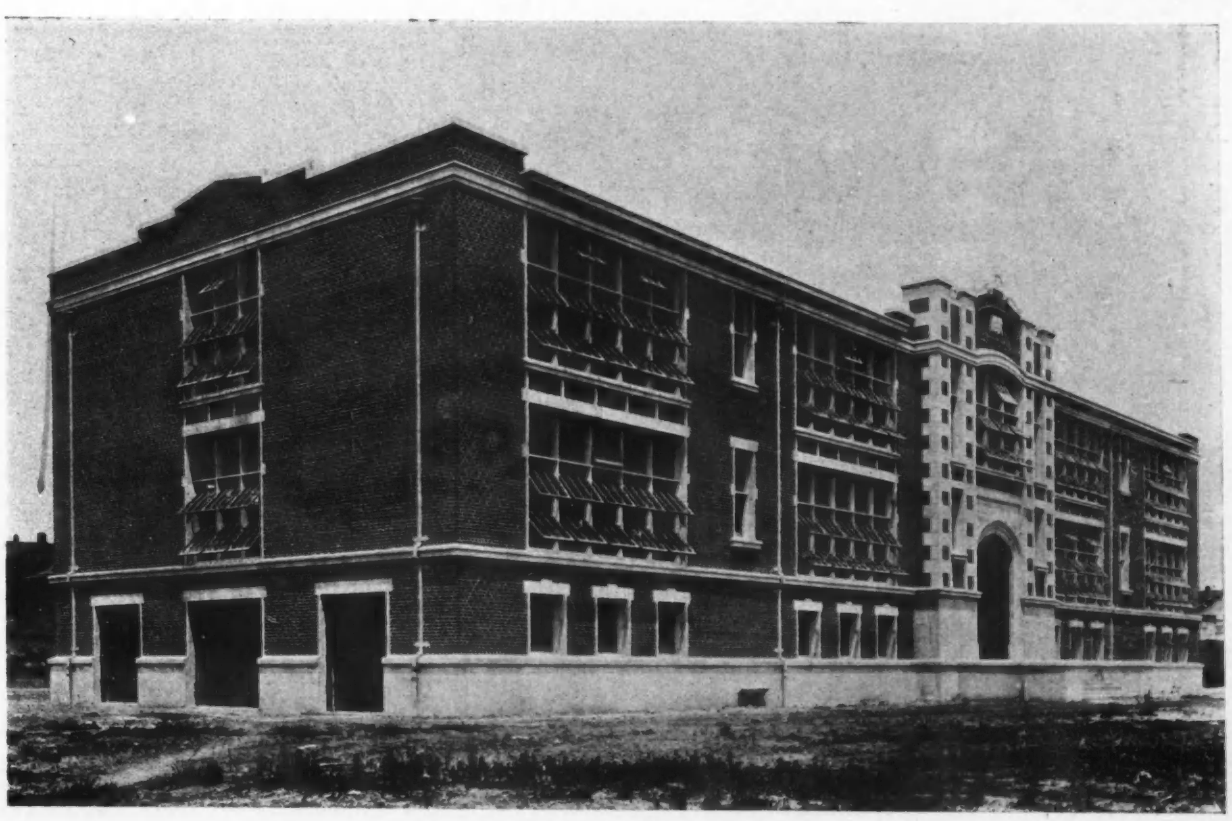
THE PACIFIC COAST ARCHITECT
September, 1914

Detail Main Entrance, Woodland High School
W. H. Weeks, Architect, San Francisco

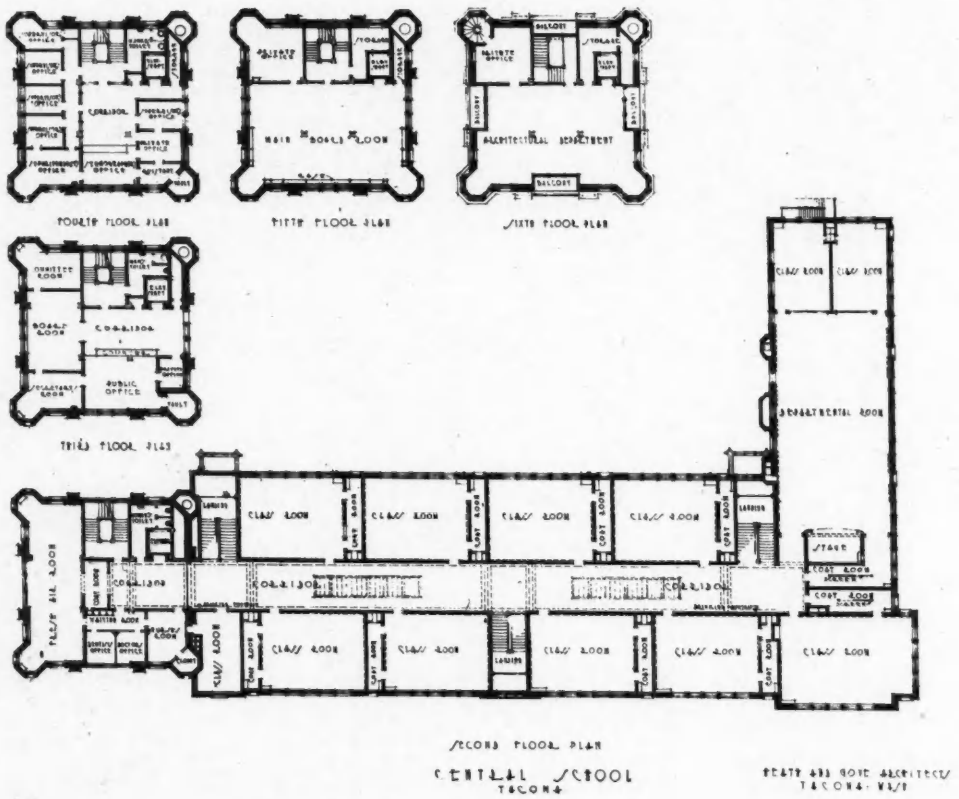
Scale ¼" to the 1' 0"

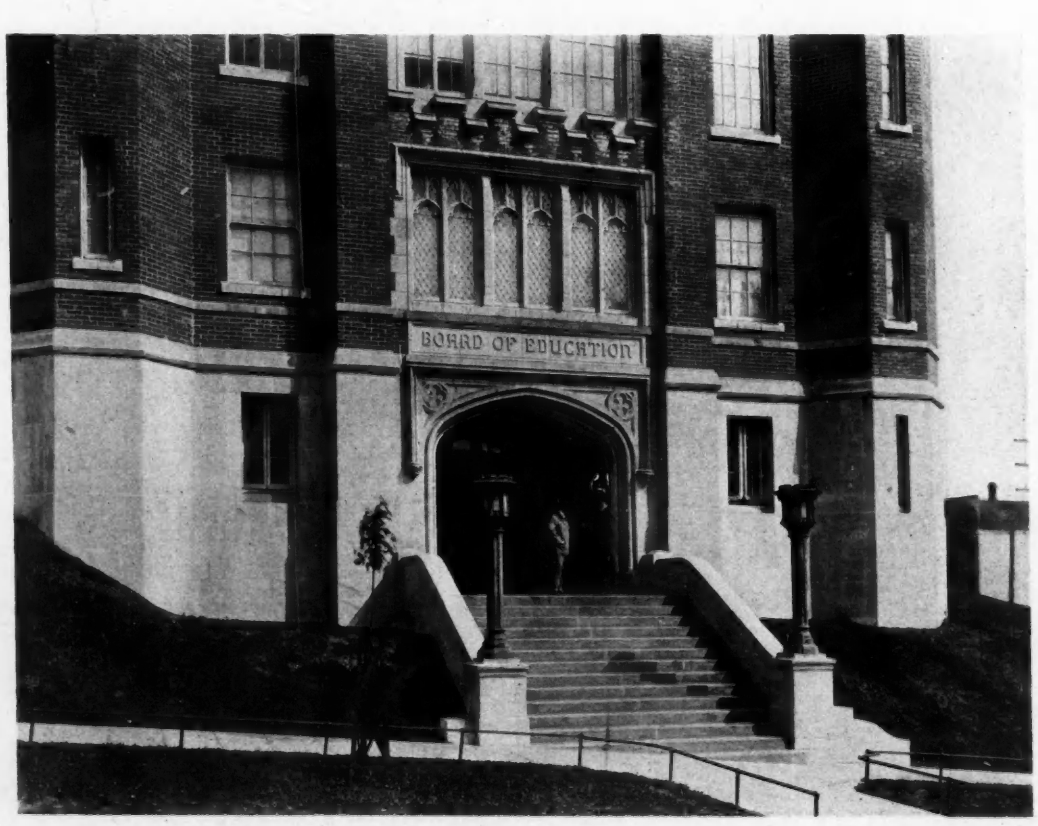


Gilroy High School, Gilroy, California
W. H. Weeks, Architect, San Francisco

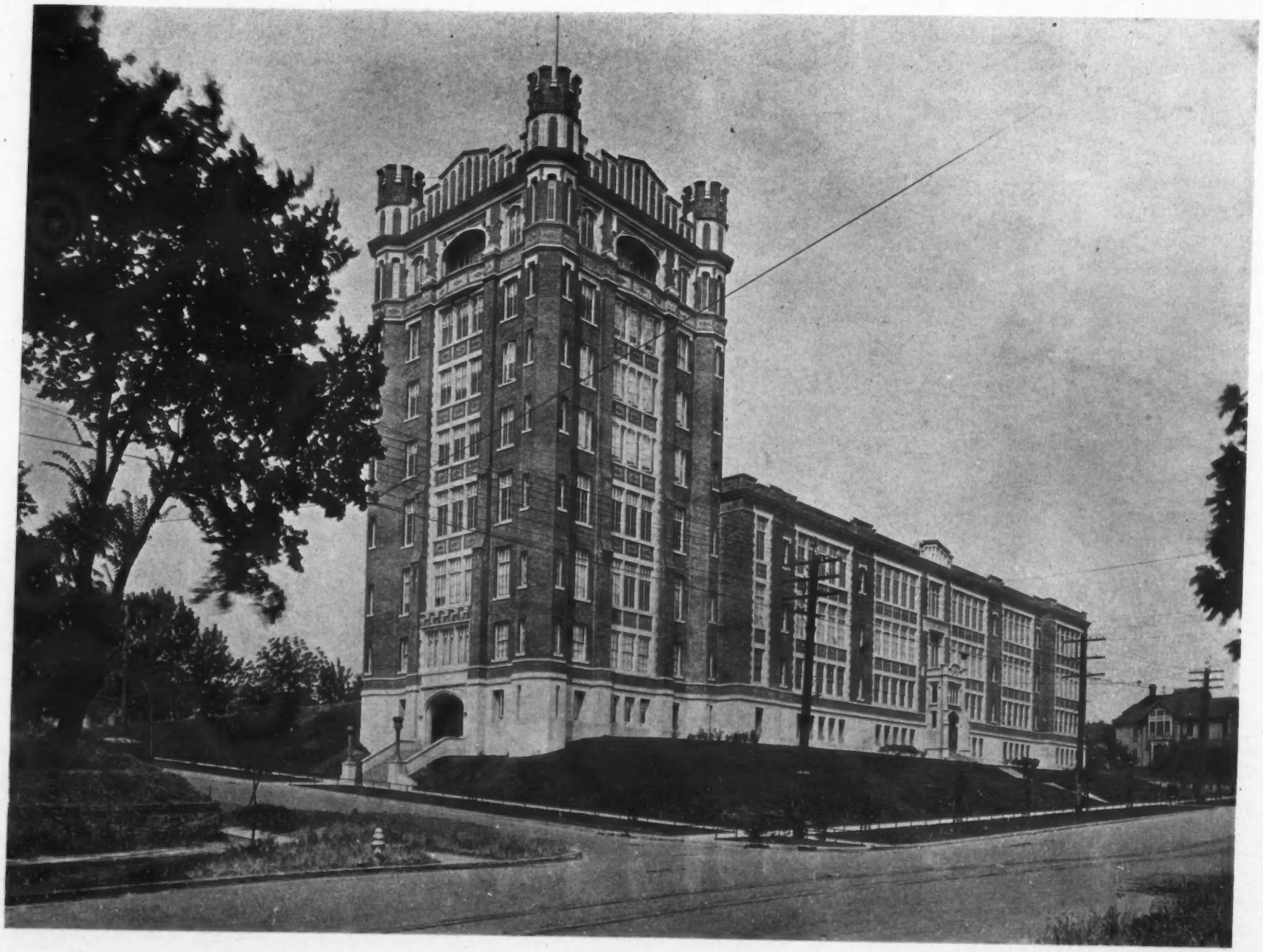


Lakeview School, Oakland, California
J. J. Donovan, Supervising Architect

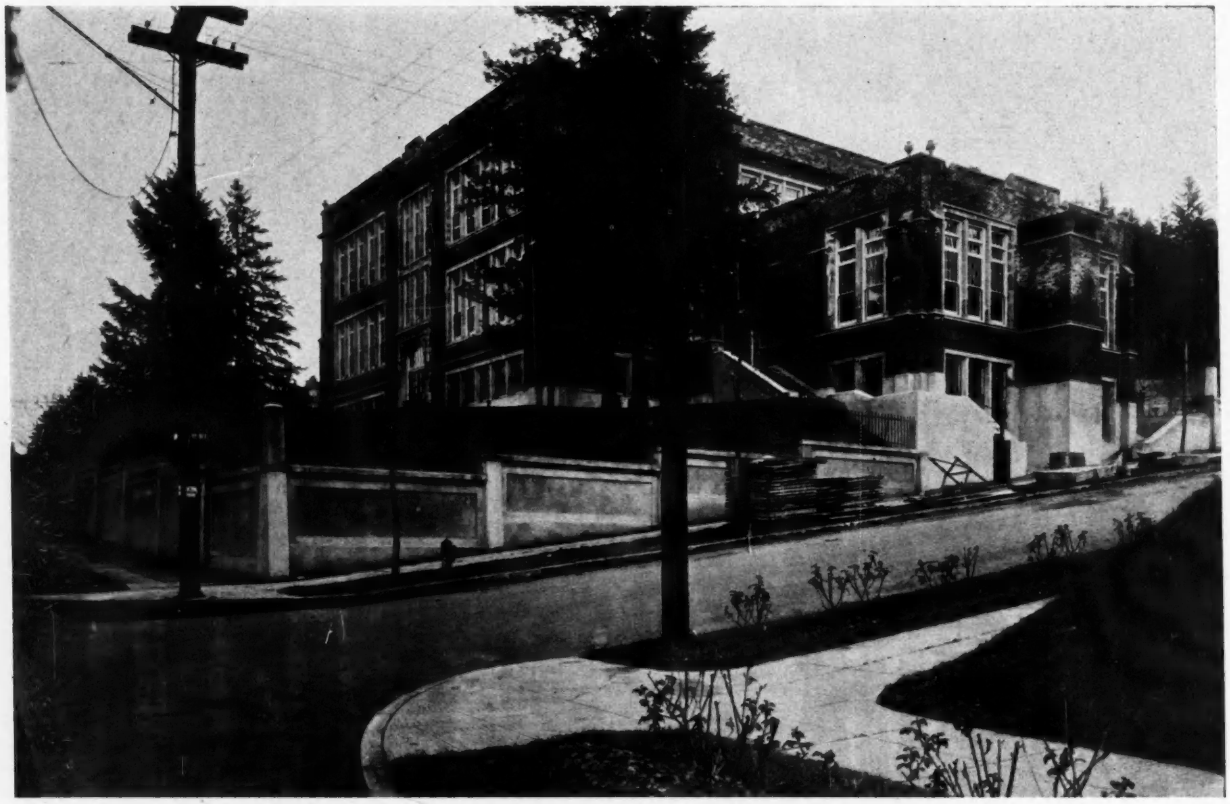




Entrance to Offices Board of Education
Central High School Building, Tacoma, Washington
Heath & Gove, Architects, Tacoma, Washington



Central School, Tacoma, Washington
Heath & Gove, Architects, Tacoma, Washington

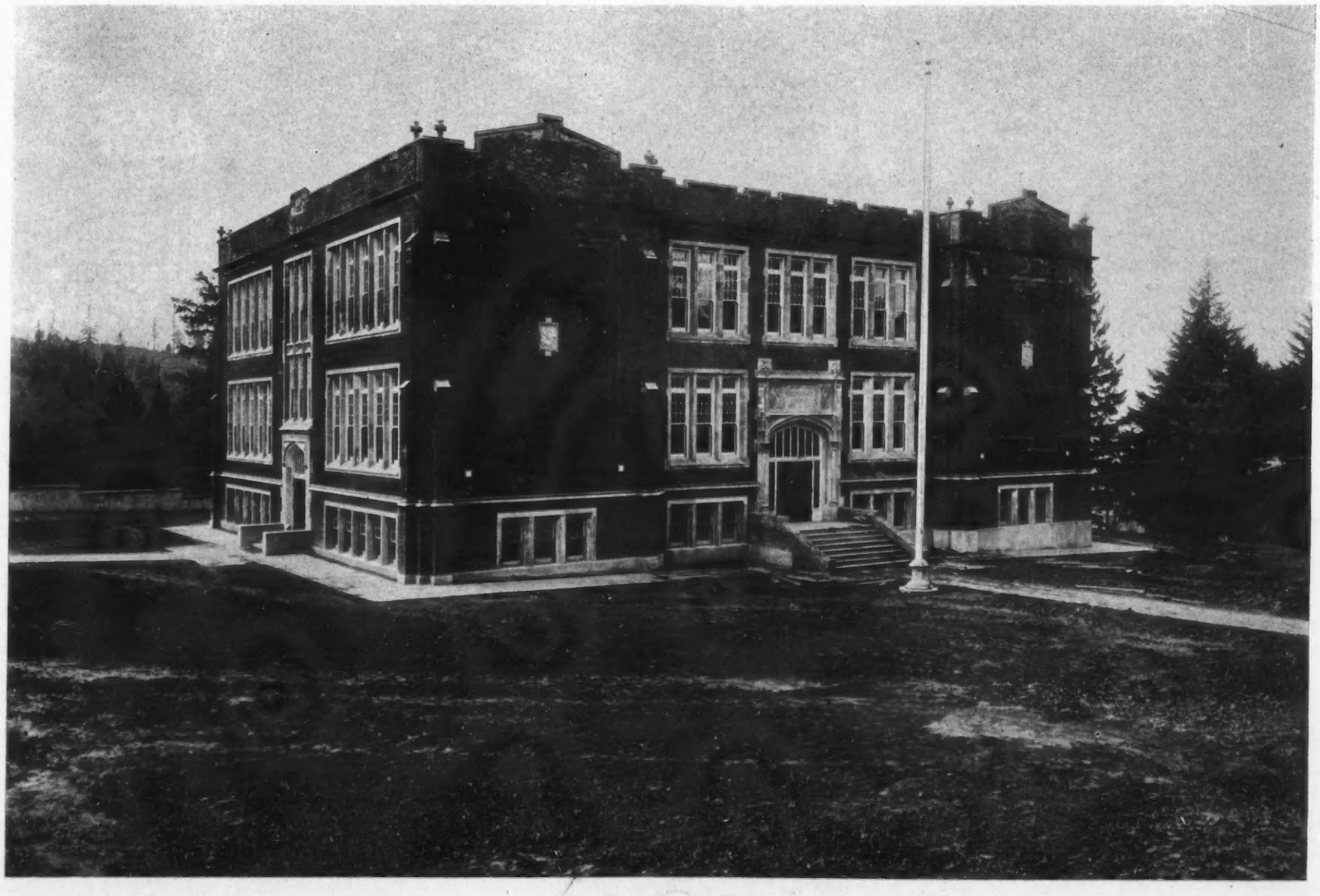


Rear View Ainsworth School, Portland, Oregon

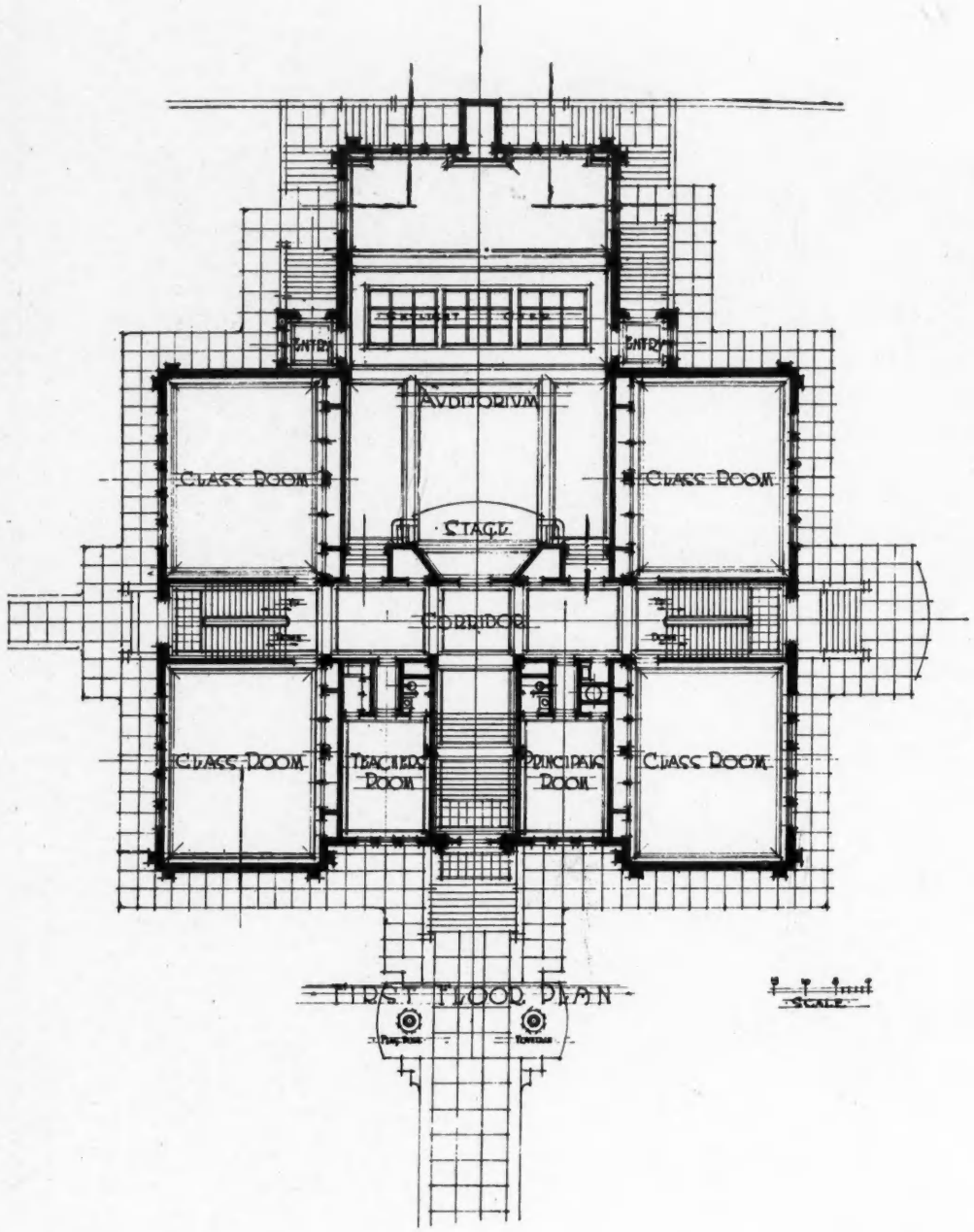
Typical Class Room

View of Main Corridor

Ainsworth School, Portland, Oregon
F. A. Naramore, Architect, Portland, Oregon

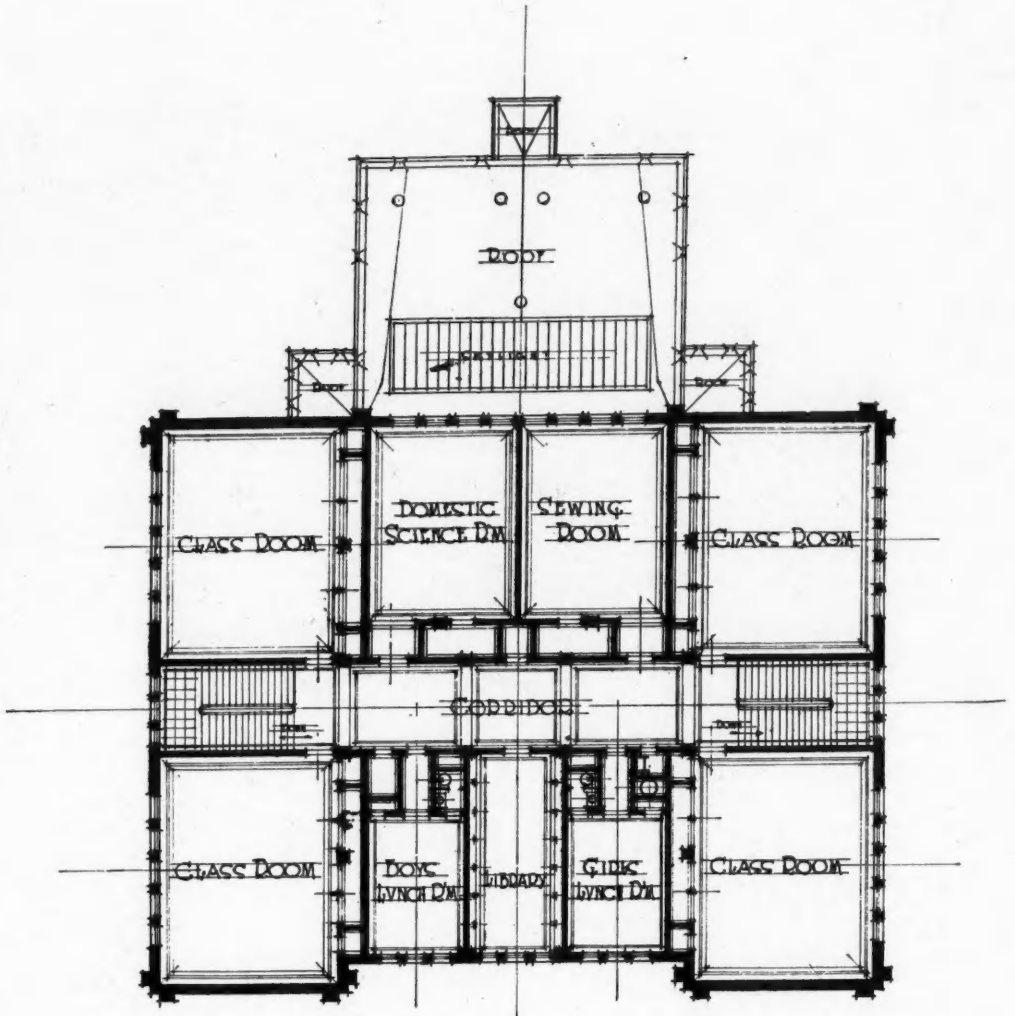


Ainsworth School, Portland, Oregon
F. A. Naramore, Architect, Portland, Oregon



FIRST FLOOR PLAN

SCALE

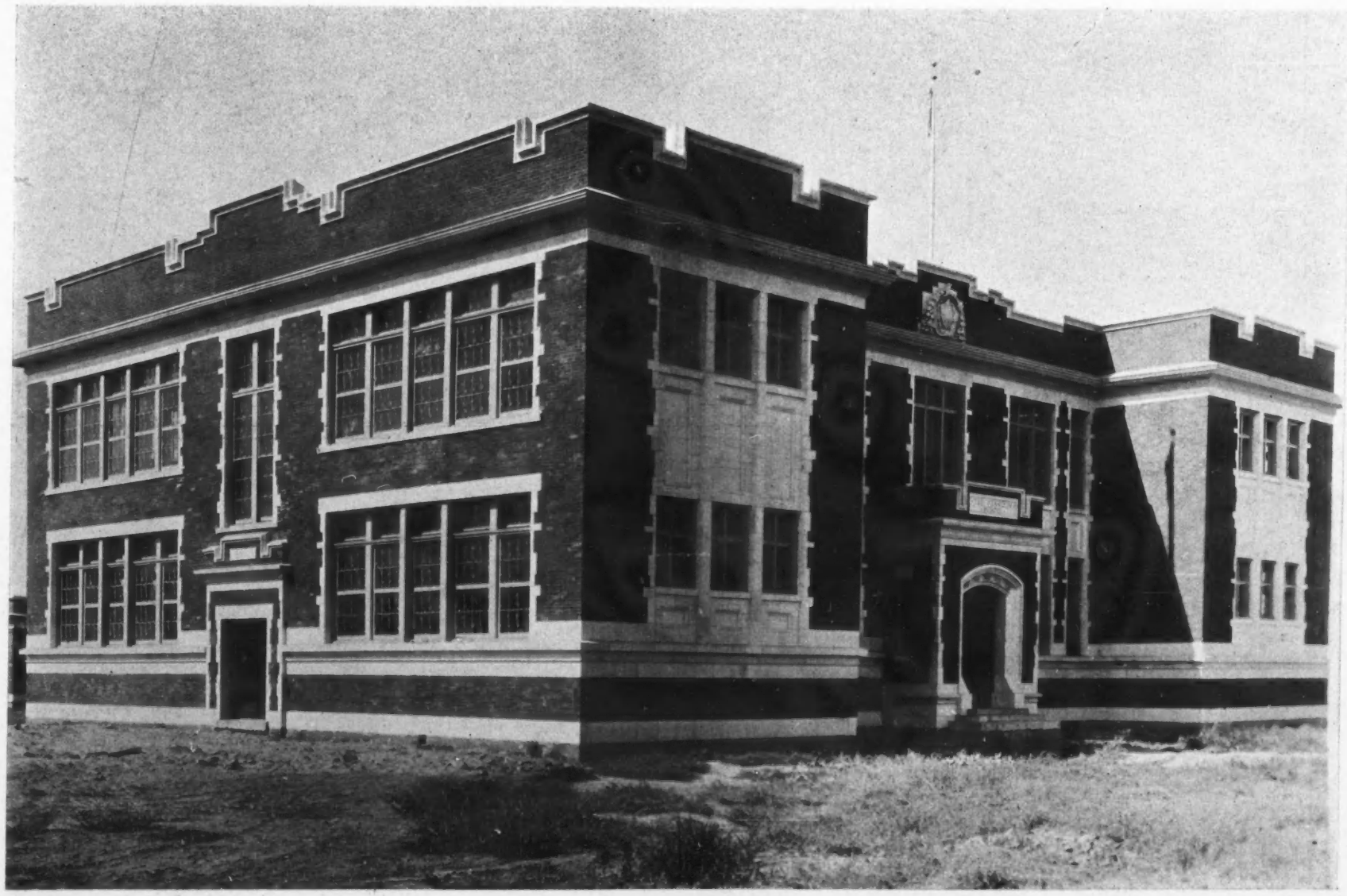


SECOND FLOOR PLAN

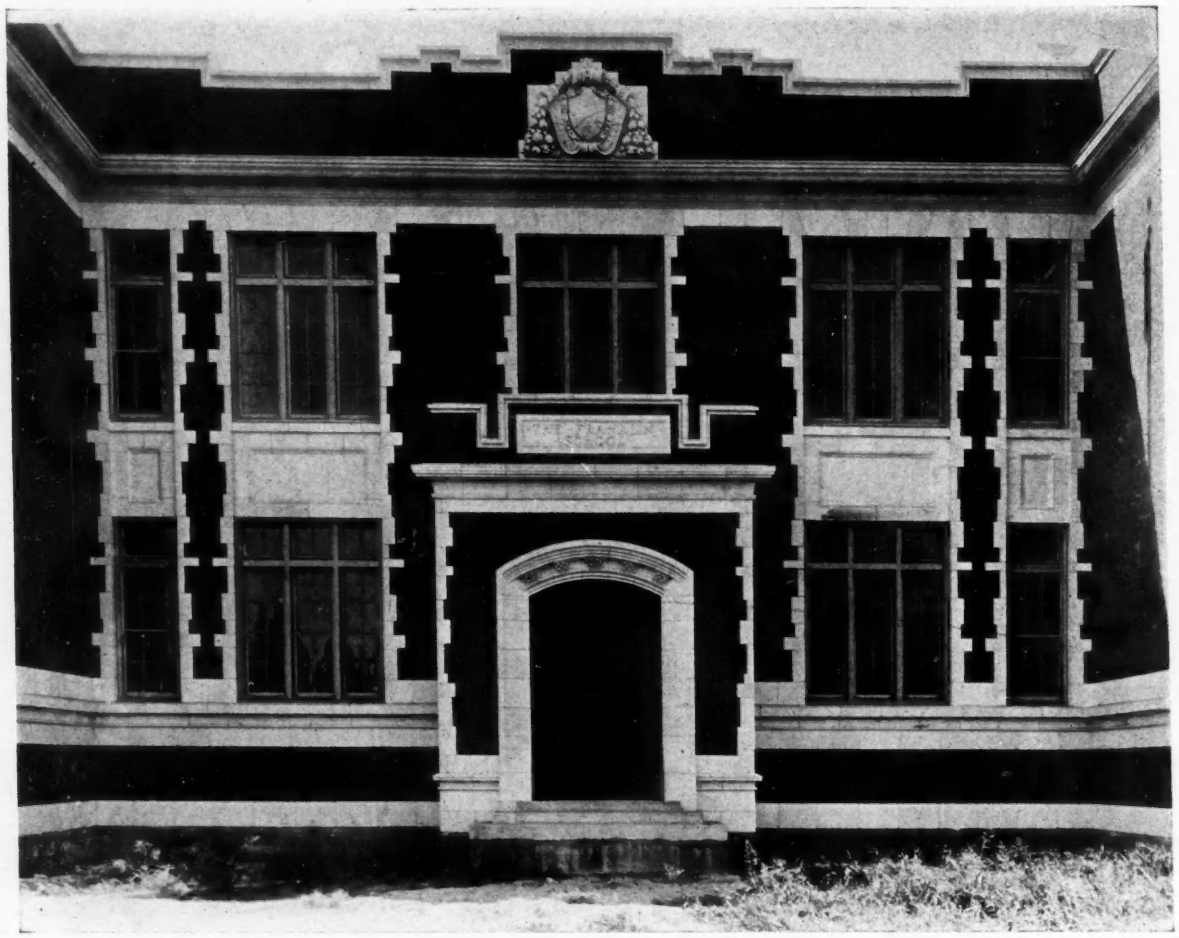
SCALE

Ainsworth School, Portland, Oregon

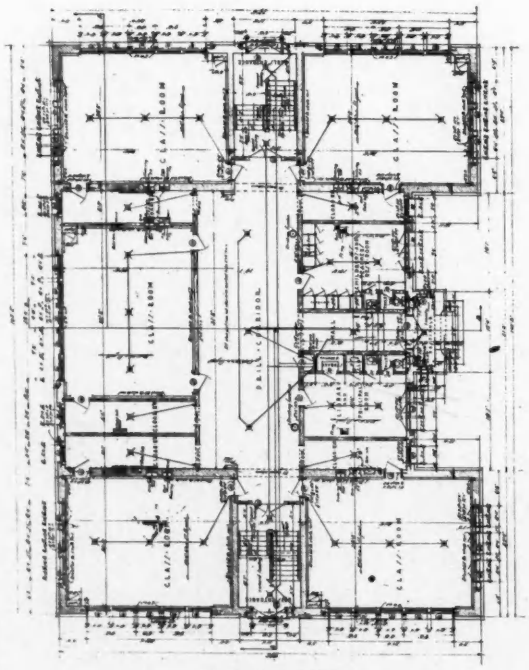
F. A. Naramore, Architect, Portland, Oregon



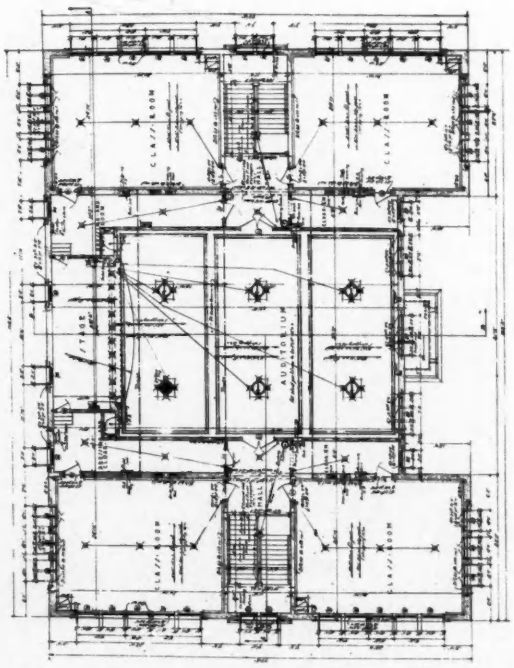
The Franklin School, Bakersfield, California
Orville L. Clark, Architect, Bakersfield, California



View Main Entrance

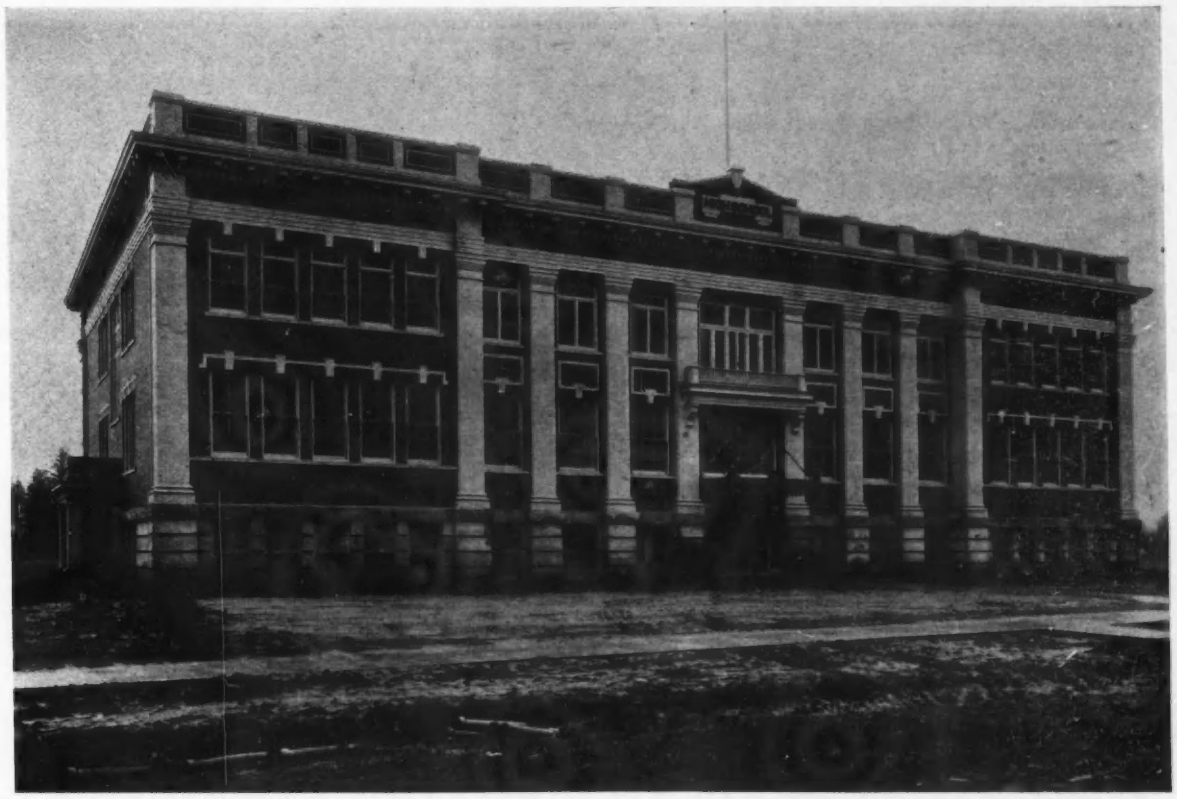


First Floor Plan

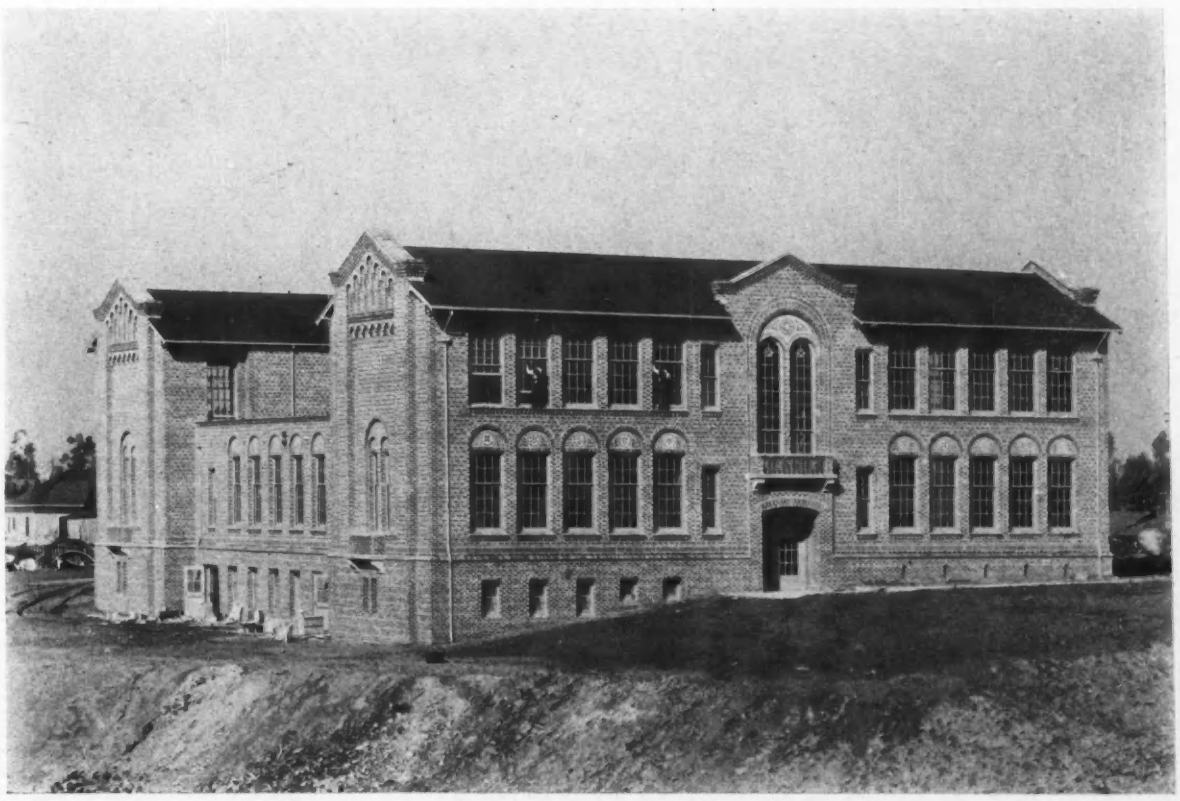


Second Floor Plan

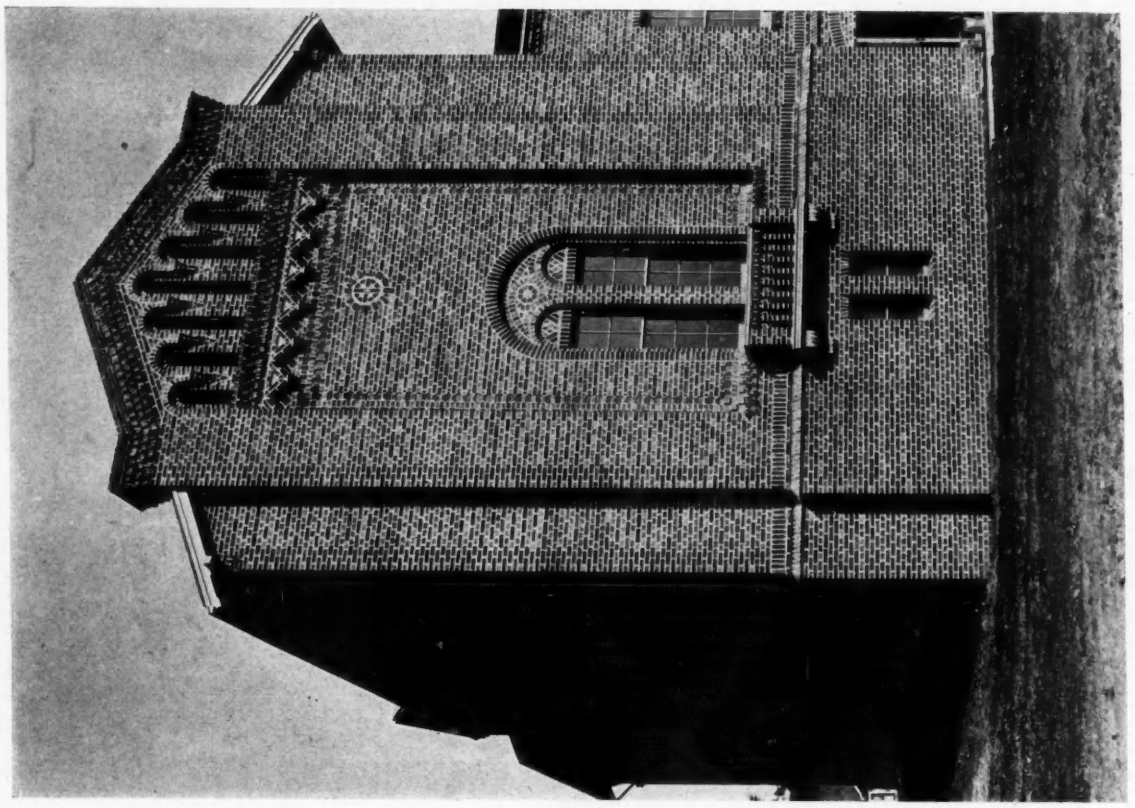
The Franklin School, Bakersfield, California
Orville L. Clark, Architect, Bakersfield, California



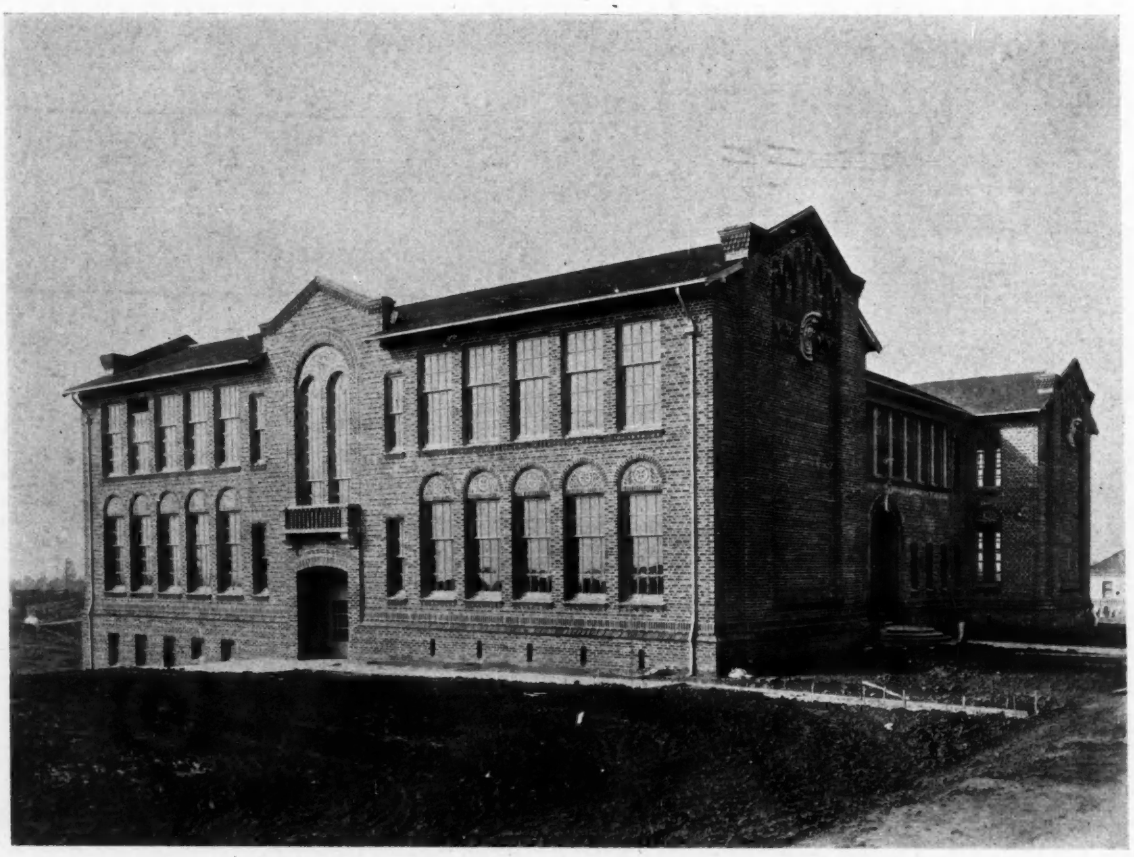
Newburg High School, Newburg, Oregon
E. E. McClaran, Architect, Portland, Oregon



Malabar Street School, Los Angeles, California
Withey & Davis, Architects, Los Angeles, California

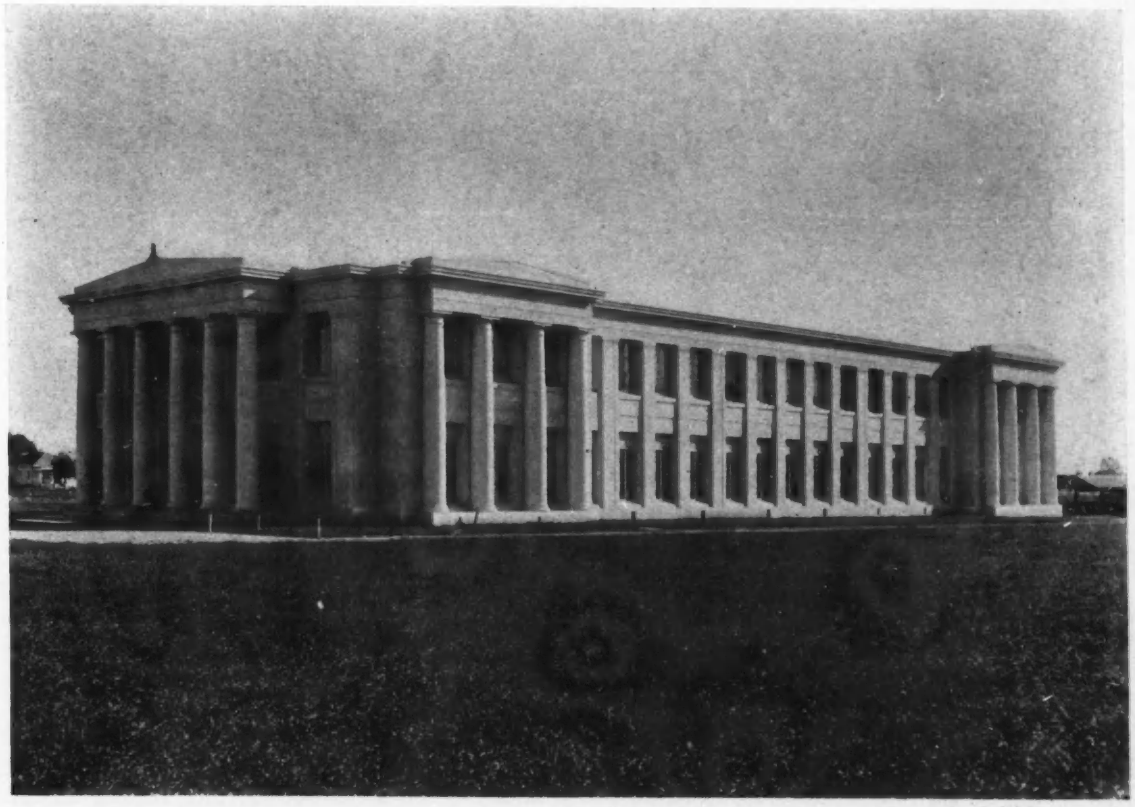


Corner Detail Malabar Street School, Los Angeles, California
Withey & Davis, Architects, Los Angeles, California



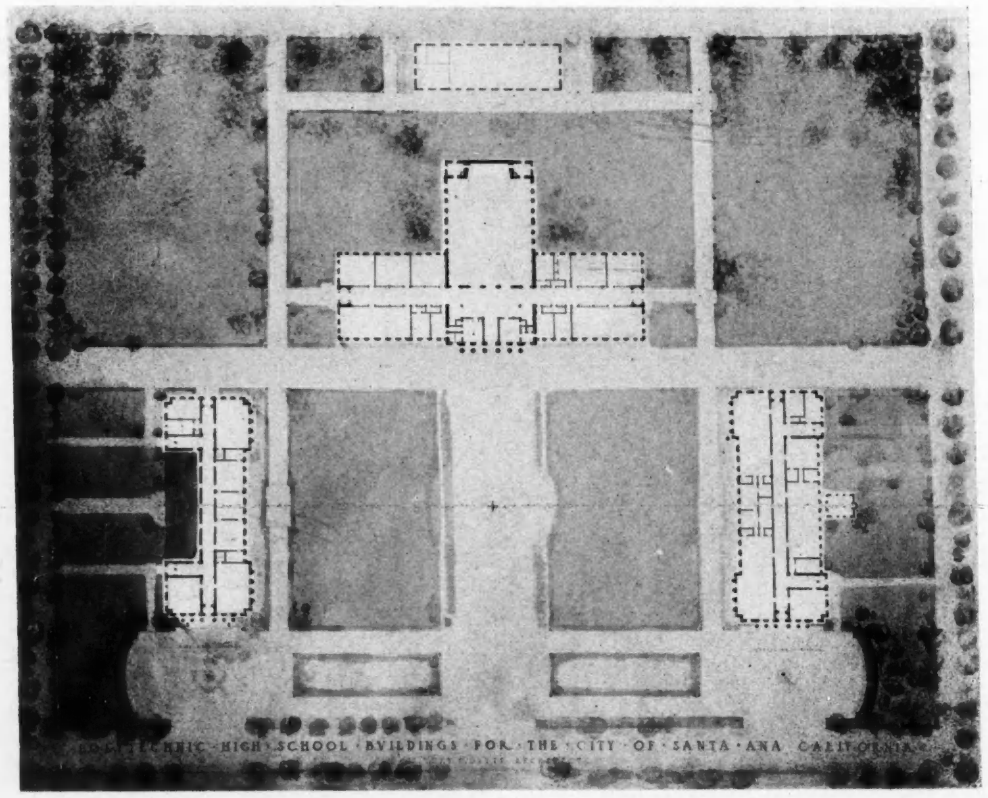
Malabar Street School, Los Angeles, California
Withey & Davis, Architects, Los Angeles, California

Santa Ana Polytechnic High School



Manual Arts Building, Polytechnic High School, Santa Ana, California
Withey & Davis, Architects, Los Angeles, California

Manual Arts and Administration Buildings, Polytechnic High School, Santa Ana, California



Ground and Floor Plans Polytechnic High School, Santa Ana, California
Withey & Davis, Architects, Los Angeles, California

"THE PACIFIC COAST ARCHITECT" is the official organ of the San Francisco Chapter of the American Institute of Architects.

San Francisco Chapter, 1881—President, G. B. McDougall, Russ Building, San Francisco, Cal. Secretary, Sylvain Schnaittacher, First National Bank Building, San Francisco, Cal.
Chairman of Committee on Public Information, William Mooser, Nevada Bank Building.
Chairman of Committee on Competition, Geo. B. McDougall, 235 Montgomery St.
Date of Meetings, third Thursday of every month; annual, October.

OTHER PACIFIC COAST CHAPTERS OF THE AMERICAN INSTITUTE OF ARCHITECTS.

Southern California Chapter, 1894—Vice-President, A. C. Martin, 430 Higgins Bldg., Los Angeles, Cal. Secretary, Fernand Parmentier, Byrne Building, Los Angeles, Cal.
Chairman of Committee on Information, W. C. Pennell, Wright & Callender Bldg., Los Angeles.
Date of Meetings, second Tuesday (except July and August), (Los Angeles).

Oregon Chapter, 1911—President,Morris H. Whitehouse, Wilcox Building, Portland, Ore.
Secretary, Ellis F. Lawrence, Chamber of Commerce Building, Portland, Ore.
Chairman of Committee on Public Information, Ellis F. Lawrence.
Date of Meetings, third Thursday of every month, (Portland); annual, October.

Washington State Chapter, 1894—President, James Stephen, 726 New York Block, Seattle, Wash. Secretary, Arthur L. Loveless, 513 Colman Building, Seattle.
Chairman of Committee on Public Information, Chas. H. Alden, 513 Colman Bldg., Seattle (till further notice send all communications to Arthur L. Loveless, 513 Colman Building, Seattle.)
Date of Meetings, first Wednesday (except July, August and September), (at Seattle except one in spring at Tacoma); annual, November.

Colorado Chapter, 1892—President, Geeorge H. Williamson, 528 Majestic Bldg., Denver, Colo. Secretary, Arthur A. Fisher, 459 Railway Exchange Building, Denver, Colo.
Chairman of Committee on Public Information, Arthur A. Fisher, 459 Railway Exchange Bldg., Denver, Colo.
Date of Meetings, first Monday of every month (Denver, Colo.); annual, September.

THE AMERICAN INSTITUTE OF ARCHITECTS.
The Octagon, Washington, D. C.

OFFICERS FOR 1914.

President ..... R. Clipston Sturgis, Boston, Mass.
First Vice-President ..... Thomas R. Kimbal, Omaha, Neb.
Second Vice-President ..... Frank C. Baldwin, Washington, D. C.
Secretary ..... D. Knickerbacker Boyd, Philadelphia, Pa.
Treasurer ..... John L. Mauran, St. Louis, Mo.

BOARD OF DIRECTORS

For One Year

Irving K. Pond, Steinway Hall, Chicago, Ill.
John M. Donaldson, Penobscot Building, Detroit, Mich.
Edward A. Crane, 1012 Walnut St., Philadelphia, Pa.

For Two Years

Burt L. Fenner, 160 Fifth Ave., New York, N. Y.
C. Grant LaFarge, 25 Madison Sq., N., New York, N. Y.
H. Van Buren Magonigle, 7 West 38th St., New York, N. Y.

For Three Years

Octavius Morgan, 1126 Van Nuys Bldg., Los Angeles, Cal.
W. R. B. Willcox, Central Bldg., Seattle, Wash.
Walter Cook, New York, N. Y.

Auditors

Thomas J. D. Fuller, 806 Seventeenth St., Washington, D. C.
Robert Stead, 906 F Street, Washington, D. C.

SAN FRANCISCO CHAPTER, A. I. A.

The regular monthly meeting of the San Francisco Chapter of the American Institute of Archiiects was held at the room of the Chapter, 110 Lick Building, on Thursday afternoon, August 20th, 1914. The meeting was called to order at 3:20 p. m. by Mr. Geo. B. McDougall.

MINUTES.

The minutes of the regular meeting of June 18th and July 16th, 1914, were read and approved.

STANDING COMMITTEES.

Board of Directors:
The Board of Directors submitted a report recommending that seven members be dropped from Chapter membership for non-payment of dues.

Sub-Committee on Competitions, A. I. A.:
Mr. Mooser, for the Sub-Committee on Competitions, A. I. A., wished to make a correction in the report of the committee submitted at the June meeting, stating that the unintentional inclusion of the name of Arthur Brown as a member of the Jury for the Webber Memorial, was a mistake.

Sub-Committee on Public Information:
Mr. Mooser, for this committee, had nothing to report, with the exception of the fact that members of the Chapter who had subscribed to the Journal would receive it at the old price through the current year, but that after that time the subscription rate would be $3.50 per annum.

Legislative Committee:
Owing to the absence of Mr. Mathews there was no report.

Building Laws Committee:
No report.

Educational Committee on Practice:
This committee reported that a talk by Mr. R. E. Smith on Illumination would be given at the conclusion of the business meeting in September.

Architectural League and Education:
The Secretary reported some correspondence with Mr. Gould, regarding the matter of the League. The correspondence would be read later.

Quantity Surveying Committee:
Mr. Wright, for this committee, made a verbal report, stating that he had been advised that the Boston Board of Education had decided that the taking of bids for the next school house be conducted under the Quantity System. Also that in Wilmington, Delaware, two municipal buildings had been let under the system.

Other Standing Committees:
No reports.

SPECIAL COMMITTEES.

Committee on the Revision of the Constitution and By-Laws:
No report.

Committee on Institute Journal:
Reported progress.

MEMBERSHIP.

Messrs. Edward Glass of Fresno, Benjamin S. Hirschfeld of San Francisco and Joseph L. Roberts of Porterville, having made the necessary applications for Chapter membership, and having been balloted upon, Messrs. Joseph and O'Brien were appointed tellers to count the ballots. Forty ballots were received and counted, and the gentlemen named were declared duly elected to Chapter membership.

On motion duly made, seconded and carried, the resignation of Mr. Albert Sutton was accepted with regret.

COMMUNICATIONS.

The following communications were received, and ordered placed on file:

Communication from Mr. Elmer Grey, of the Institute Committee on Town Planning, in reference to the same; from Mr. C. Williamson, chairman of the Cemetery Removal Committee of the Civic League of Improvements Clubs, relative to the reasons for the removing of dilapidated and neglected cemeteries in the Western Addition; and letter of resignation from Mr. Albert Sutton. Copies of the Pacific Coast Architect for July and August; letter from Carl F. Gould, president of the Architectural League of the Pacific Coast *in re* the A. L. P. C. Convention to be held in Seattle in October; and the minutes of the Michigan Chapter, A. I. A., of the regular meeting.

UNFINISHED BUSINESS.

There was no unfinished business.

NEW BUSINESS.

On motion duly made, seconded and carried, the names of the seven members recommended by the Board of Directors, were dropped from Chapter membership for delinquency.

On motion duly made, seconded and carried, the chairman of the Legislative Committee was notified to have his committee prepare for the next meeting of the Legislature.

In the matter of the Architectural League of the Pacific Coast, after some discussion, the Secretary was directed to send in the resignation of this Chapter from the League.

The communication from Mr. Elmer Grey on Town Planning was referred to the Housing Committee for action and report.

A written statement prepared by Mr. Thos. J. Welsh as to certain conditions affecting the profession was read, and ordered received and placed on file.

On motion duly made, seconded and carried, the Chair was empowered to appoint a Special Committee to gather data concerning the matters mentioned in Mr. Welsh's report.

The Chair announced, with deep regret, that since the last meeting the Chapter had sustained a severe loss through death, of its former President, Mr. Albert Pissis. Also that Mr. David Farquharson, an honorary member of the Chapter, had passed away. The Secretary was directed to send suitable letters of sympathy and condolence expressing the regret of the Chapter.

ADJOURNMENT.

There being no further business before the Chapter, adjournment was taken at 4:45 p. m., out of respect to the memory of our late brethren. Subject to approval,

SYLVAIN SCHNAITTACHER,
Secretary.

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SOUTHERN CALIFORNIA CHAPTER, A. I. A.

The seventy-fourth meeting of the Southern California Chapter of the American Institute of Architects was held at the Hollenbeck Cafe, Los Angeles, California, on Tuesday, July 14th, 1914.

The meeting was called to order at 7:50 p. m. by Vice-President A. C. Martin. The following members were present:

1. D. C. Allison,
2. J. C. Austin,
3. J. J. Backus,
4. A. B. Benton,
5. J. J. Blick,
6. W. E. Erkes,
7. Homer H. Glidden,
8. J. W. Krause,
9. John P. Krempel,
10. A. C. Martin,
11. H. H. Martin,
12. O. W. Morgan,
13. Octavius Morgan,
14. S. Tilden Norton,
15. Robert H. Orr,
16. H. M. Patterson,
17. T. F. Powers,
18. A. F. Rosenheim,
19. J. T. Vawter,
20. August Wackerbarth,
21. A. R. Walker,
22. H. F. Withey,
23. F. A. Shafer.

As guests of the Chapter were present: Charles Gordon, Alfred W. Ray and Arthur S. Heineman, local architects; Harry Iles and W. Dellamore, of the Builder and Contractor, and W. E. Prine, of the Southwest Contractor.

The minutes of the seventy-third meeting of members were read and approved.

For the Board of Directors the Secretary reported that one meeting had been held on Wednesday, July 8th, 1914. At this meeting of the Directors letter ballots for recommendation to fellowship were opened, and the Secretary instructed to forward the result to the Institute headquarters.

The Secretary further reported that Fernand Parmentier had been granted three months leave of absence, and that A. R. Walker had been appointed Acting Secretary during his absence.

Upon motion of Mr. A. F. Rosenheim, seconded by Mr. Homer Glidden, the action of the Board in granting this leave of absence was unanimously ratified by the Chapter.

For the Committee on Civic Improvement, Mr. John C. Austin reported that the Chapter's committee had been actively at work in their affiliated capacity with the Los Angeles City Planning Association, and that from the point of view of this Association much interest in this work seemed to be manifested by all members. Mr. Austin further reported that the work of this Association looking toward the appointment by the City Council of an active City Planning Commission would be realized.

For the Committee on Institute Membership, Mr. H. M. Patterson reported that the committee was encouraged by the probable securing of additional Institute members.

For the Committee on Quantity Survey, Mr. Octavius Morgan, Jr., reported that the committee had held no further meetings since the last Chapter meeting, but that the various members of this Committee were making themselves thoroughly familiar with this subject and that their report would have to be deferred until a future meeting.

Mr. John P. Krempel reported for the Special Committee on "A. B. C." Picnic, that approximately twenty-five architects attended this picnic and that a most enjoyable afternoon had been spent.

For the Standing Committee on Membership, Mr. Julius Krause reported that one application would be presented to the Board of Directors at their next meeting and that other candidates were in prospect.

For the Committee on Education, Mr. John C. Austin read a letter addressed to that committee from Mr. Scott Quintin, Instructor of the Architectural course at the Los Angeles Manual Arts High School. In this communication a request was made for an opinion on a program proposed for this course during the coming term.

After considerable discussion on the subject, Mr. John P. Krempel moved that the matter be left in the hands of the committee to be replied to in accordance with their best judgment. The motion carried.

Communications were next read as follows:

From D. Knickerbacker Boyd, Secretary of the A. I. A., calling the attention of the Chapter to matters of Institute importance and to actions taken by the Board of Directors, namely: First, the importance of holding a meeting for the purpose of discussing the question of Institute reorganization as recommended by the Committee on Chapters. Second, relative to the matter of co-operation by the Institute with the Department of Agriculture in the matter of housing and improvement to farm conditions, and requesting the Secretary to forward the result of the work done locally to the Secretary of the Institute. Third, relative to a resolution by the Board of Directors, expressing a desire to encourage the closest co-operation between Chapters and architectural societies and clubs in the territories contiguous to established Chapters, and the extension of any and all courtesies to such organizations.

From the Chamber of Mines and Oil, relative to certain materials available for its members. This communication, it was suggested, might be sent to the Tropico Tile Works as a possible matter of interest.

From the American Civic Association in acknowledgment of the receipt of letter of June 11th.

From the Secretary of the A. I. A., acknowledging the receipt of the Chapter's letter of June 11th, relative to the matter of collecting farm-house drawings and exhibits.

Under the head of new business the Secretary presented the subject matter of the evening, the question of Institute reorganization. After giving a clear outline of why the new policy seemed desirable and the reasons that led up to its initiation, the Secretary read the outline report as presented in the Journal of June, 1914. A general discussion followed this reading, whereupon the report was again read in sections, discussed and approved in all its sections with the following exceptions:

Relative to the payment of dues a suggestion was made by Mr. Tilden Norton that dues of both members and candidates be paid to the Institute and not to both Chapter and Institute; that the Chapters should be responsible for the proper payment of such dues to the Institute; the suggestion being made in an effort to do away with any notions on the part of members or of the public as to the existence of a dual organization. Previous to putting a motion on this matter, Mr. J. J. Backus moved, seconded by Fernand Parmentier, that the Chapter endorse the changes reported by the Committee on Chapters with the modifications to be hereinafter proposed.

Following the adoption of this motion, it was moved by Mr. Benton, seconded by Mr. Norton, that dues for Institute members and candidates be paid quarterly by the Chapter to the Institute. This motion was unanimously passed.

The question as to the uniformity of dues was next discussed.

A motion was made by Mr. John C. Austin, seconded by Mr. Parmentier, that the dues for candidates be made approximately 50 percent less than for members. A discussion followed and an amendment was offered by Mr. Norton that a reduction be made to candidates for the first year only, thereafter the dues to be uniform for both members and candidates. Upon the acceptance of this amendment by Mr. Austin and his seconder, the motion was so put and unanimously passed.

Relative to the question of examination and fee for membership, Mr. Krempel moved that in localities where State laws now exist requiring the certification of architects, that no such examination as noted in the committee's report be required. Following a discussion, this motion was carried.

Relative to the rights of candidates, it was moved by Mr. Backus, seconded by Mr. Norton, that members and candidates may have equal rights and power to vote in matters of local interest. This motion was adopted.

Relative to the status of the present junior members, it was suggested by Mr. Parmentier that present juniors, as well as Chapter members, automatically become candidates.

Relative to the election of honorary members, it was moved by Mr. Austin that such members be selected and voted upon by each local Chapter for the honorary members within that territory. No second being presented to this motion, the recommendation of the committee as presented in the report was approved.

Relative to the section on Associates of the Chapters, it was moved by Mr. Norton, seconded by Mr. Erkes, that such a form of membership should not, by this Chapter, be endorsed.

All other sections of the committee's report were endorsed.

Following the action of the Chapter on the report of the Committee on Chapters, a communication from the Building Committee of the Los Angeles City Board of Education was read relative to the awarding of certain school buildings to local architects.

Mr. Octavius Morgan, recently returned from an extensive European trip, next addressed the Chapter, reciting some of his interesting experiences of the trip, and touching upon his work as a Director of the Institute while in the East.

Mr. Martin opened a discussion on a proposed ordinance now before the Los Angeles City Council to do away with the use of the marquise on buildings. Mr. Backus reported that the matter was still before the council and that the course of their action was as yet not indicated. Mr. Arthur Heineman, a guest of the evening, was called upon and briefly stated the part he had taken in opposing the passage of this ordinance. Upon motion of Mr. Parmentier it was left in the hands of the Acting President to appoint a committee to deliberate upon the question and deal with the Los Angeles City Council in the matter to the best interests of the profession.

The meeting adjourned at 10:35 p. m. until the second Tuesday in October, or subject to the call of the Chairman.

(Signed) FERNAND PARMENTIER, Secy.
By A. R. Walker.

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OREGON CHAPTER, A. I. A.

Meeting held at the University Club July 16, 1914, called to order by President Whitehouse. Wm. G. Holford appointed Secretary pro tem in the absence of Secretary Lawrence.

Those present were: Messrs. Whitehouse, Lazarus, Naramore, Fouilhoux, Johnson, Smith, Beckwith, Jacobberger, Holford and Doyle.

Mr. Beckwith moved and Mr. Doyle seconded that the minutes of the last meeting be accepted as printed. Motion carried.

REPORTS OF COMMITTEES.

Buildings Laws Committee by J. A. Fouilhoux.

Mr. E. F. Lawrence,
Sec. Oregon Chapter, A. I. A.,
Chamber of Commerce Bldg., City.

Dear Sir:

At a meeting held at the Commercial Club July 1st, the proposed Housing Code was discussed. I regret to state that although all the members of the Chapter had been requested to send their suggestions regarding the proposed Code, only four went to the trouble to do so and no members outside of the committee were present at the meeting. It is rather deplorable to see the lack of interest shown by the members of this Chapter in such an important question as the new Housing Code is. However, we have submitted to Commissioner Dieck a letter a copy of which we enclose herewith. The Housing Code will probably come up before the Council in the very near future. Respectfully submitted,

J. A. FOUILHOUX,
Building Laws Committee.

Mr. Robert G. Dieck,
Commissioner of Public Works,
City Hall, City.

Dear Sir:

The Oregon Chapter of the American Institute of Architects, after investigation of the proposed Housing Code, wishes to recommend its adoption by the City Commission. However, your attention is called to the following changes which we deem desirable:

Section 2. That the Bureau of Health be charged with the inspection of tenements and dwellings, it being their duty to report to the Bureau of Buildings any change or alteration required by the Building Department to be responsible for enforcement of these requirements.

Section 3. Provide a Board of Appeal consisting of five members appointed by the Mayor in the following manner: One member from two candidates nominated by the Realty Board, one member from two candidates by the Builders Exchange, one member from two candidates nominated by the Oregon Chapter, A. I. A., one member from two candidates nominated by a property owners or taxpayers organization, one member from two candidates nominated by public welfare organizations (Consumers League, People Institute, Associated Charities). The appointments first shall be made for the terms of one, two, three, four and five years respectively, so that the term of one member shall expire each year. All subsequent appointments shall be made for a term of five years. Vacancies shall be filled in the same manner in which original appointments are made. Each member shall serve without pay, and shall be a resident or engaged in business in Portland.

No member shall act in any case in which he is interested, and in any case any member is so disqualified, the remaining members shall designate a substitute.

Every decision of the board shall be in writing and shall require the assent of at least three members.

Sections 58, 59, 60 and 61 of the present Building Code to remain in force.

Section 5. Change second line to read as follows: "at any time to be altered so such alteration be in violation or render the building in violation of any provision."

Section 9. Eighth line, change the word "architect" to "builder." The architect coming under qualification of agent who is previously mentioned in this paragraph.

Section 10. To be changed so as to read as follows:

The inspector of buildings shall, during construction regularly inspect or cause to be inspected all buildings for the purpose of ascertaining that they are being constructed in conformity to the provisions of this ordinance of the City of Portland, and if any violation is found to exist, said inspector shall immediately order the owner or other persons in charge to proceed with such changes or alterations to make such buildings conform with said ordinance.

When notified by the owner or other persons in charge of the completion of the said building, he shall make inspection and examination of such building and issue a certificate that it has been found to be constructed in conformity to the provisions and ordinances of the City of Portland.

The unlawful occupation is covered by Section 11.

Section 14. Second line to read: "built in parts or units has been partially completed at this time."

Section 15. Omit word "architect" in second line, add "wilfully" before the word violates in the fourth line, omit the words "or violates" in the fifth and sixth lines.

Section 17 to read as follows:

No living room in apartments shall be allowed, the floor of which is below the level of the adjacent ground on any side of the room. This section should be made part of Section 51.

Section 25. Add the following sentences:

"The minimum width of a court for a tenement two stories in height or less shall be seven feet, and for a dwelling two stories in height or less shall be five feet and such width shall be increased one foot additional for each story above two stories. The minimum area of such courts shall be one hundred and thirty square feet for buildings two stories in height or less and such minimum area shall be increased forty square feet for each additional story above two stories."

Third line from end, change "such court" to "all courts."

Section 40. Fifth line to read as follows: "passageway not less than 21 square feet area with minimum dimensions of two feet."

Section 43. After second sentence add the following: "Provided that any apartment containing five rooms or over, one room may contain 80 square feet in area."

Section 44. Lines four and five to read as follows: "shall have a window or windows with a sash arrangement giving not less than 12 square feet free area." Lines 8, 9, 10 omit the following: "and such windows shall be made so as to open from the top the full width or from the side the full length."

We understand that this section to be amended so as to allow shaft ventilation for interior bathrooms.

Section 57. Should allow tenements five stories in height of VI class with metal lath protection throughout.

Section 59. Add the following: "stairs to roof or rear service stair treads may be nine inches."

Respectfully submitted,

J. A. FOUILHOUX,
Chairman Committee on Building Laws,
Oregon Chapter, A. I. A.

LEGISLATION.

Mr. Lazarus, recently appointed Chairman in place of Mr. Williams, resigned, reported his committee was awaiting instructions.

Mr. Johnson reported as Chairman of last year's Competition Committee, that he had written Mr. Rice (according to instructions received by Mr. Medary) in regard to Mr. Sutton's participation in the competition for the Oregon State Building at the Panama Exposition.

CONTRACT COMMITTEE

Reported progress and promised final report at the next meeting. Mr. Whitehouse reported he was unable to obtain an interview with Mr. Holman of the County Commissioners in regard to Interstate Bridge and Columbia Highway Bridges.

READING OF COMMUNICATIONS.

Letter read from Mr. H. A. Whitney, tendering his resignation, referred to the meeting by the Executive Committee, was laid upon the table upon motion by Mr. Doyle and seconded by Mr. Beckwith, until the Secretary has heard from Mr. Whitaker. Secretary was instructed to request Mr. Whitaker to take up with Mr. Whitney direct the matter of Institute dues. In connection with this matter letters from Secretary to Mr. Whitney were read and from Mr. Whitaker.

Letter from Secretary Boyd notifying the Chapter concerning fellowship recommendation was read.

June 22, 1914.

To the Secretary of each Chapter.

Dear Sir: Permit me to call your attention to the last sentence in Section 1, Article 2, of the By-Laws, which states that individual Chapters may make recommendation for advancement to Fellowship. If your Chapter has any such recommendation to make, please be good enough to see that they are sent to the Octagon not later than about September 15, in order that ample time may be allowed for consideration of the names submitted.

In the case of recommendation previously made but not presented by the Board of the Convention for advancement to Fellowship, please repeat at this time the names of any of those which you desire to have considered with the new list.

Very truly yours,

D. KNICKERBACKER BOYD,
Secretary.

Mr. Lazarus moved and Mr. Fouilhoux seconded that the Secretary notify members by letter of the opportunity to recommend Associate members of the Chapter for advancement to Fellowship, and asks that each member designate whom he wishes to honor.

Mr. Doyle suggested each member should read for discussion at future meeting report of Committees on Chapters report in the June Journal.

Mr. Lazarus read from Builders Exchange communication and his reply, giving ideas as to strengthening the work of the Exchange.

Mr. Fouilhoux moved and Mr. Doyle seconded that the Municipal Affairs Committee take up the matter of bill boards along the Columbia Highway with County Commissioners in order that the natural beauty be not marred by signs, etc. Motion carried.

Mr. Jacobberger moved and Mr. Naramore seconded that the Municipal Affairs Committee communicate with other interested organizations on this matter of bill boards along the Columbia Highway, asking for their co-operation to secure protection.

Mr. Doyle read report of Committee on Chapters in June Journal by request, and those present discussed it at some length.

Meeting adjourned.

WM. G. HOLFORD,
Secretary pro tem.

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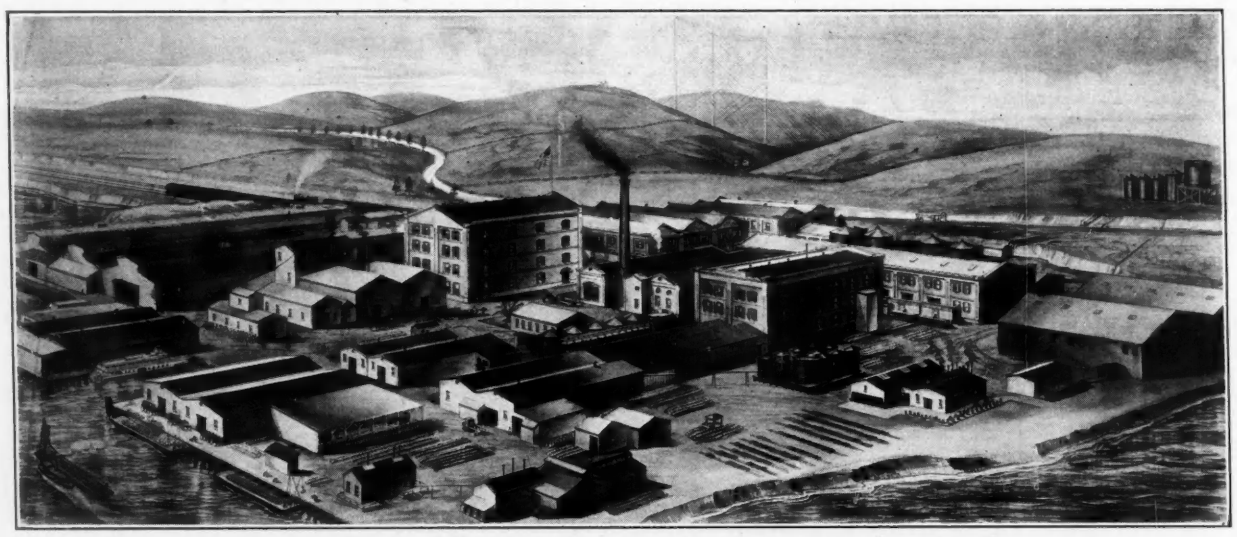
WASHINGTON STATE CHAPTER, A. I. A.

As the Washington State Chapter, A. I. A., does not hold meetings during the months of July, August and September, there will be no minutes of meetings published until October, when they will be resumed.

A Pacific Coast Concern

Just sixty-three years ago in a small and unpretentious building at Sacramento two men began an humble paint business on a very limited scale. The two owners themselves formed the entire organization and labored indefatigably to crown their enterprise with success. And their efforts were not in vain.

The result as we see it today is the corporation of W. P. Fuller & Co., owning a string of sixteen stores from Spokane to San Diego, employing over one thousand men, and operating probably the most extensive factory on the Pacific Coast.



Factories of W. P. Fuller & Co., at South San Francisco.

W. P. Fuller, Sr., came around the Horn in 1849, arriving in California early in 1850. One year later, Mr. Fuller, together with Mr. Heather, started in the paint business in Sacramento under the firm name of Fuller & Heather. Eleven years later, during the great flood of 1862, a large portion of the stock of the concern was moved to San Francisco, and henceforth this city was the base of operations. Mr. Heather retired in 1867, and the firm of Whittier, Fuller & Co. was then established. In 1890, Mr. Fuller died, and the partnership was continued by his son, W. P. Fuller, Jr. A few years later Mr. Whittier retired, and 1894 saw the incorporation of the firm of W. P. Fuller & Co.; it is under this name that the business has since been successfully carried on. When W. P. Fuller, Jr., retired in 1904, I. F. Littlefield became president and general manager, and his administration of affairs has been attended by continued prosperity and steady growth.

The huge factories of the firm are located in South San Francisco and occupy almost eighteen acres of ground. The plant includes a total of twenty-six buildings.

W. P. Fuller & Co. originally began the manufacture of Mixed Paints and White Lead in 1875, these products previously having been imported from the East. Their Paints and Pioneer White Lead have now been made continuously for forty years and have achieved a wide and justly deserved reputation. One after another, the factory products have been increased until at this time are included, besides White Lead and a complete line of Mixed Paints for every use: Colors in Oil, Colors in Japan, Enamels, Stains, Wall Finishes, Distemper Colors, Varnishes and Shellacs, Red Lead and Litharge, Prepared Wax, Lubricating Oils, Putty and Mirrors.

The varnish factory, built in 1913, is a model, modern plant, and a like description will apply to the new Mixed Paint factory now in the course of erection. In-

The Birthplace of the Firm in Sacramento, 1851.

creased business has rendered the former quarters of the Paint department inadequate.

From the first the watchword of the Fuller factory has been—"Quality." The quality of their goods is reflected in the success of their business.

The main store and general offices of the firm are located in San Francisco. Besides the branch at Sacramento, the company operates distributing houses at Oakland, Stockton, Long Beach, Pasadena, Santa Monica, San Diego, Seattle, Tacoma, Spokane, Boise, two at Portland and two at Los Angeles.

W. P. Fuller & Co. has reason to be proud of the length of service of many of its employees. One man has been recently pensioned after 45 years of service, and at least twenty others have passed the 30-year mark.

The firm owes its prosperity in large part to the strong foundation on which it was built in its early years, a foundation for which W. P. Fuller, Sr., is responsible. Mr. Fuller was one of the old-time business men, doing business not only on the lines of strict honesty, as the word is understood nowadays, but on the stricter usages of the old-time merchant; absolutely taking no advantage of anyone and allowing no advantage to be taken for his benefit by any of his employees. He was a man of sterling character, charitable and honorable in all his dealings, far-seeing and broad-minded, and attended strictly to the one line of business in which he was engaged, indulging in no speculations, taking pride in his business and its growth, and an honest and hearty interest in the welfare of his employees and fellow citizens. The aims and practices of the founder have been carried out by his successors—his sons—and the same honest policy has been followed at all times. Mr. W. P. Fuller, Sr., started with no capital except his brains, integrity and honesty, and his fortune was thus built up without any of the latter-day methods.

W. P. Fuller & Co. is essentially a Pacific Coast concern and a firm believer in the motto: "Western made for Western trade."

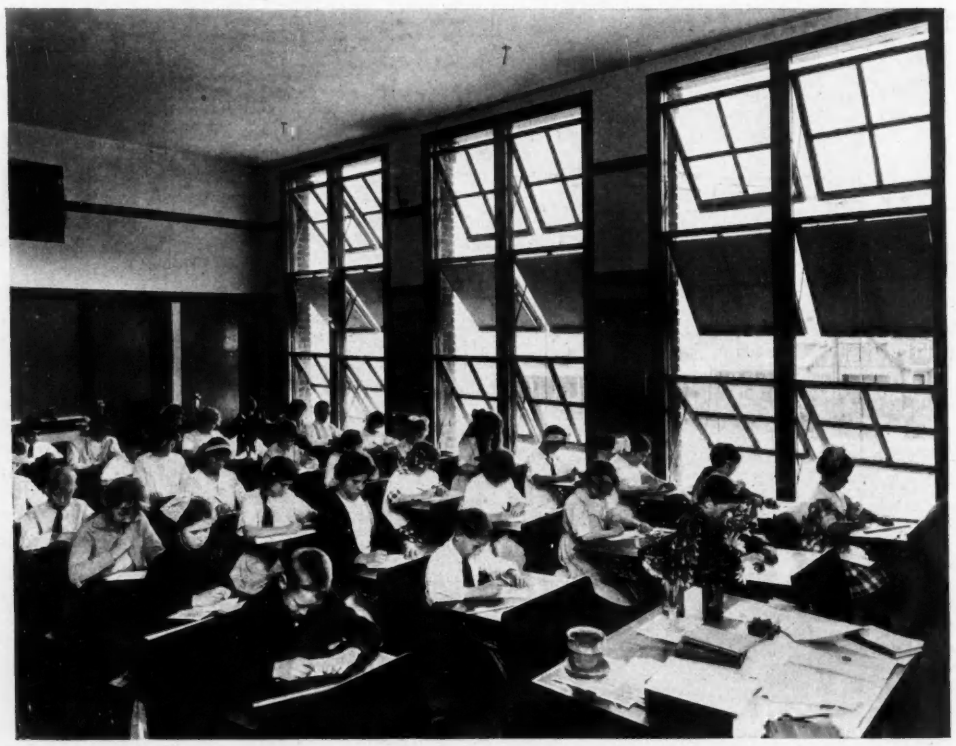
The Main Store and General Offices of the Company, Beale and Mission Streets, San Francisco.

Light and Ventilation of School Rooms

In planning and designing a habitation, be it a home, hotel, office building, school, or other edifice where people dwell, congregate and have their abode, either singly or collectively, how essential and important it is for the architect and designer to carefully consider and incorporate all of the requirements and essential features demanded in a building of this character. To secure protection and shelter from inclement weather and at the same time so design the structure that it will contribute to the occupants' health, comfort and convenience and be suitable for their particular vocation and pursuits, is an achievement requiring thought, study and persistent effort on the part of the architect.

Emerson School, Oakland, California. John Galen Howard, Architect, San Francisco.

To obtain perfect results it is necessary to incorporate the latest and best products and improvements that can be obtained. Careful consideration should be given to the different products manufactured for this purpose. One of the most essential features to consider in designing are the windows. They are required to contribute light, air, sunshine and ventilation, without which a building would not be habitable. How necessary and important it is then to select windows that will in the most suitable and efficient manner suppiy your structure with these vital and necessary features. With this object in view, we call the reader's attention to the above illustration in school work, showing windows which are in adaptability and durability the last word and most perfect achievement. The operation and movement of these windows are secured without the use of weights to counterbalance them. They operate wholly outside and when open assume a tilting position. This position can be adjusted to any desired angle, even to the full reversal of sashes for cleaning. Owing to the tilted position of sashes when open the maximum amount of air is secured and forced upward and inwardly into interior, where it distributes itself throughout the room in draftless circulation, at the same time eliminating the foul and exhausted air and carbon-dioxide which accumulates at floor line. This is accomplished by having windows extending down to or within six inches of floor. These windows for school purposes are usually made three sash openings and give an abundance of air and light to



Typical Interior View of Class Rooms, Oakland Schools. J. J. Donovan, Architect, Oakland, California.

scholars who, owing to this fact, are healthier, brighter and more energetic and have a much greater capacity and inclination to study and develop their mentality.

In California alone some two hundred school buildings have been equipped with these unrivaled windows, and a great number are now specified and in use in other states. They have been installed and are now in use in all kinds and classes of buildings, including fireproof structures. Owing to their sterling qualifications in giving light, air and perfect ventilation, a school building so equipped does not need any other system of ventilation, which is a great saving. They have proven themselves to be absolutely weather-proof, and are noiseless in either an open or closed position.

These windows have given splendid results wherever used, and the public is invited to investigate and examine closely their merits. The manufacturer of these unrivaled windows is The Simplex Window Company, 525 Market Street, San Francisco, and have agencies throughout the world. On request they will send all necessary data and information, including details, descriptive booklet, prices, etc., and will answer promptly all communications addressed to them.

How to Make School Rooms Safe Without Being Built Entirely of Fire Proof Material

(Continued from page 92.)

of fire. As an additional precaution all the ceiling, walls and partition surfaces shall be protected with plaster on metal lath.

One great source of danger in buildings is the defective electrical wiring, such wiring, according to the proposed ordinance should be run in conduit, which practically eliminates any fire risk from this source.

The report on the Collinwood fire states that the doors were to the left of the stairway. All exit doors should be directly opposite the stairway and swing in the direction of the outgoing passage; they should have an approved type of horizontal push-bar device that will unlock the bolts by pressure against the bar. These bars should extend the full width of each door.

Some authorities have omitted all locks on class room doors. There is much in favor of this method, wherever it is not necessary to secure rooms against misdemeanants. All locks to school rooms, closets and exit doors should be those that cannot be locked against outgoing persons.

The proposed ordinance gives a minimum width of doors to be used in connection with exits, also a maximum size of a single door or leaf of double door, so that a small child can always push the same open. The doors are required to swing outwards.

Regarding the storage closets under stairs these will be prohibited under a general provision of the building ordinance of this city.

The Collinwood school heating apparatus was defective. I have shown previously how the construction of the first floor and the special protection around the boiler room should prevent a fire from spreading from the boiler room to the rest of the building. The general provisions of the ordinance also require metal sleeves around steam pipes and the provision governing the distance between hot air ducts and wood and the protection of these ducts should be an additional guarantee against a fire from heating apparatus in our school buildings.

In the Collinwood school the upstairs wardrobes or cloak rooms opened directly into the hall and were removed from the teachers' control; this led to confusion and panic, inasmuch as the pupils did not march out in order through the customary door. The ordinance prohibits the use of more than one door in a classroom and this door is to be near the teacher.

The Russell Sage Foundation report shows that at opposite sides of the Collinwood school building were open wooden stairs. The question of stairs is one of the most important in the planning of a building. In panics people try to escape by the exits they commonly use. Properly built stairs make the best fire escape. Staircases should always be in plain view and the architectural treatment of the corridor at stair points should be such as to suggest the way of exit. All stairways should discharge directly to the outside of the building and not into corridors. The outside walls at point of discharge should be brought to the edge of the door frame, doing away with the angle, which in many cases of panic has caused loss of life.

Turns in stairs should always be accomplished by landings or platforms. No winders should be allowed. There should not be less than three nor more than fifteen risers between platforms; a platform or landing should not be less than four feet wide. The last parts of a building to succumb to fire should be the stairs.

The proposed building ordinance calls for at least two separate and distinct stairways located so that from any point of the building there shall always be two different means of escape in case of fire. It prohibits any class-room door from being more than fifty feet away from the nearest stairway, which stairway shall lead to a street or an open space, with doors at the bottom of the stairs at least as wide as the stairs leading to them.

Whenever an arch or a door opening does not occupy the total width of the vestibule, corridor, hall or landing leading to it, the side walls of the vestibule, corridor, hall or landing shall be flared to an angle not greater than 30 degrees, so as not to allow any pocket on either side of the opening.

In two-story buildings the Code requires the basement to be separated from the stairway by a metal covered or kalameined door swinging in the direction of the outgoing passage and having self-acting door closers. In three or more story buildings the stairways are to be enclosed throughout. In any case, the construction of the stairs and landings is to be of strictly fireproof materials.

Regarding the automatic fire alarm which the Russell Sage Foundation shows to have been lacking in the Collinwood School fire, the proposed ordinance requires every school building two stories or more in height to be provided with a proper fire alarm or gong which can be operated from any story and can be heard throughout the building, such system to be in direct connection with the fire department, to be approved by the Board of Fire Underwriters and to be tested at least once a week.

It has been stated that the Collinwood fire might have been extinguished by the janitor had he had the apparatus at hand. The general provision of the building ordinance requires that such a building as a two-story school building should be provided with a stand pipe with sufficient length of fire hose to reach any point of the building. It might be a good precaution for the authorities in charge to have a few chemical extinguishers distributed throughout the building.

The question of fire drill has led to much controversy; nevertheless, it seems reasonable that if children have been taught how to behave and how to act in case of fire there shall be a better chance for them to escape

than if no precautions had been taken previously. The proposed ordinance requires fire drills, report of these drills to the fire chief, and gives the latter the right to call a fire drill to ascertain the efficiency of same. The fire chief has the power to give the necessary instructions and directions to bring the drill up to a certain standard.

All those different fire retarding devices preventing the rapid or sudden spread of fire, also these life-saving devices providing safe and rapid exits in case of alarm would seem to make a school building, built according to the above requirements, beyond any criticism from a humanitarian point of view. From an economical point of view, bearing in mind the fire-fighting equipment of the building itself and of the city department, it seems that a good many locations in districts where the population is not permanently settled calls for the construction of a safe but not necessarily fireproof building. We read in the report of the Survey of Public School System of Portland, submitted in November of 1913, the following:

"Since the Collinwood, Ohio, disaster, in which a number of children were burned to death in a poorly constructed wooden building, many ill-advised laws have been enacted in various states, relative to the construction of school houses and other public buildings. While distinctly favoring fireproof construction for all large and permanent school buildings, there is nevertheless such a thing as overdoing the matter. In a city such as Portland, where the centers of population are shifting so rapidly, there ought to be some opportunity, at this stage of the city's development, to build small semi-fireproof buildings, especially when these are so well removed from danger from without. Otherwise, the Board of School Directors may be compelled to risk making wasteful expenditure of public funds. When a basement is carefully fireproofed; chimneys carefully built; all electrical wiring done under rigid inspection; stairways made of fireproof construction, and ample in number; and sufficient exits are planned, with safety locks on all doors, the danger from fire within the building is so very small that the city ordinance now in force seems too rigid."

This report was made by experts on school problems both as to construction and administration, and it would seem wise to follow their advice.

The city of Portland would seem justified in following such a course if we remember that the city of Boston, which has been pointed out as a model city in school construction, is now building school buildings of second-class construction in its outlying districts. The new Ohio State Code, which is a model state code, in many respects allows two-story school buildings of composite or semi-fireproof construction. Wisconsin's new proposed code only requires fireproof construction for school buildings four stories high or a building three stories high with more than six hundred occupants. What we require is "Safe Buildings," which does not necessarily mean fireproof buildings.

INDUSTRIAL INFORMATION

Architect C. B. Barton of Oakland has moved from the Security Building to the First Trust & Savings Building.

Louis Beezer, of Beezer Bros., architects, Northern Bank Building, Seattle, returned recently from an extended pleasure trip through the East.

Somerville & Putman, architects, formerly located at 520 Pacific Building, Vancouver, B. C., have moved to the London Building, Fender Street West.

Architects Lawrence & Holford, Chamber of Commerce Building, Portland, have opened an office in Eugene, and have placed O. R. Bean in charge.

Architect Francis P. Rooney of Spokane, Wash., advises us of the completion of the plans for the Liberty Theater of that city; estimated cost $125,000.

Architect R. M. Taylor of Los Angeles has moved into new quarters at 910 Marsh Strong Building. Mr. Taylor was formerly located in the Douglass Building.

N. Clark & Sons, San Francisco, furnished cream matt glazed architectural terra cotta for the Gilroy High School, Gilroy, Cal. W. H. Weeks, architect, San Francisco.

Architects Wm. Redding & Sons of Denver, Colo., have opened a branch office in Nogales, Ariz., and would be pleased to receive catalogues and samples of all kinds of building materials for that office.

C. F. Weber & Co., San Francisco, have secured the contract for all equipment for the Eureka High School, amounting to nearly $10,000. They report a great deal of activity in school buildings at this period.

Los Angeles Pressed Brick Company, Los Angeles, furnished approximately 120,000 Red Ruffled Brick for the new Malabar-Street School, of that city. Withey & Davis, architects, Los Angeles, prepared the plans for this building.

Architect Fay R. Spangler, late of San Diego, Cal., and, prior to that time and for three years located in Seattle, Wash., has opened an office in the Monadnock Building, San Francisco, and wishes circulars and samples of building materials, etc., sent him.

The California State Highway Commission is using considerable quantities of Santa Cruz Portland Cement and Standard Portland Cement, according to a representative of the Santa Cruz Portland Cement Company, San Francisco. This concern reports the local consumption of their product as exceptionally good.

Gladding, McBean & Co., San Francisco, furnished cream matt enamel architectural terra cotta for the Franklin School, Bakersfield, Cal. The plans were prepared by Orville L. Clark, Bakersfield, Cal. This firm also furnished the brick for the Gilroy High School, Gilroy, Cal. W. H. Weeks, architect, San Francisco.

Steiger Terra Cotta and Pottery Works, San Francisco, furnished the architectural terra cotta for the Lux School of Industrial Training, San Francisco. W. H. Weeks, architect, San Francisco. The same material was used on the new Polytechnic High School, San Francisco. The plans were prepared by the Bureau of Architecture of the Board of Public Works.

A. C. Soule, manager of The Simplex Window Company, has returned from a recent trip to Southern California and reports that Simplex business is prosperous. Their representative in Los Angeles has completed the installation of Simplex wood and metal windows in the Merchants' National Bank twelve-story building; the Bible Institute Building, where there are some two thousand Simplex metal windows; the Auditorium Building, and several others, also a great number of school buildings throughout the surrounding territory and in Arizona.

CALIFORNIA.

San Francisco—Architects Shea & Lofquist, Bankers' Investment Building, San Francisco, have completed plans for a three-story and basement, brick and steel school building, for St. Paul's Parish, at a cost of $50,000.

San Francisco—Architect B. G. McDougall, Sheldon Building, San Francisco, has completed plans for a three-story and basement apartment house, to be erected at the northwest corner of Larkin and Chestnut streets, at a cost of $60,000.

San Francisco—Architect Lewis P. Hobart, Crocker Building, San Francisco, has completed plans for a four and six-story and basement hospital building for the Regents of the University of California, to be erected at the Affiliated Colleges, at a cost of $600,000. Construction will be fireproof throughout with a complete steel frame and walls of brick and concrete faced with pressed brick and terra cotta.

San Francisco—Architect G. Albert Lansburgh, 709 Mission street, San Francisco, has practically completed plans for a three or four-story addition to the Concordia Club Building at the southeast corner of Van Ness and Post streets, at a cost of $75,000.

San Francisco—Architect G. A. Applegarth, Call Building, San Francisco, is working on plans for a five-story and basement Class C construction apartment house, for D. Clinton, to be erected at the southwest corner of Stockton and Powell streets, at a cost of $60,000.

Alhambra—Architect Norman F. Marsh, 212 Broadway, Los Angeles, has completed plans for a one and two-story and basement, brick school building, for the Alhambra School District, to cost $100,000.

Pasadena—Architect Myron Hunt, Hibernian Building, Los Angeles, has completed plans for a three-story and basement hotel building, of frame and plaster, for the Maryland Hotel Company, at a cost of $200,000.

Los Angeles—Application has been made to the building department for a permit for the erection of the twelve-story and basement steel frame bank and office building at the northeast corner of Fifth and Spring streets, for the Commercial Fireproof Building Company. The estimated cost is $750,000. The architects are Parkinson & Bergstrom, Security Building, Los Angeles.

OREGON.

Salem—Architect W. C. Knighton, Salem, has about completed plans for a two-story and basement, reinforced concrete and brick school administration building to cost $100,000. The building will form a part of the group of the State University buildings.

Portland—Architects Camp & Dupuy, 426 East Alder street, Portland, have completed plans for a four-story and basement apartment house for C. W. Pallett, to be erected at the northwest corner of Eighteenth and East streets. It will be of brick and steel construction and will cost $85,000.

Eugene—Architects Hunzicker & Preusse, I. O. O. F. building, Eugene, has completed plans for a three-story and basement brick school building for the Eugene High School District. It will cost $100,000.

✧ ✧ ✧

WASHINGTON.

Architect W. P. White, Transportation building, Seattle, has completed plans for a five-story and basement brick and steel apartment house to be erected at the corner of Eighth avenue and Seneca street, for the Seneca Investment Co., at a cost of $70,000.

Port Angeles—Architect Francis W. Grant, Melhorn Building, Seattle, has completed plans for a two-story and basement, reinforced concrete court house for Callam county. It will cost $75,000.

✧ ✧ ✧

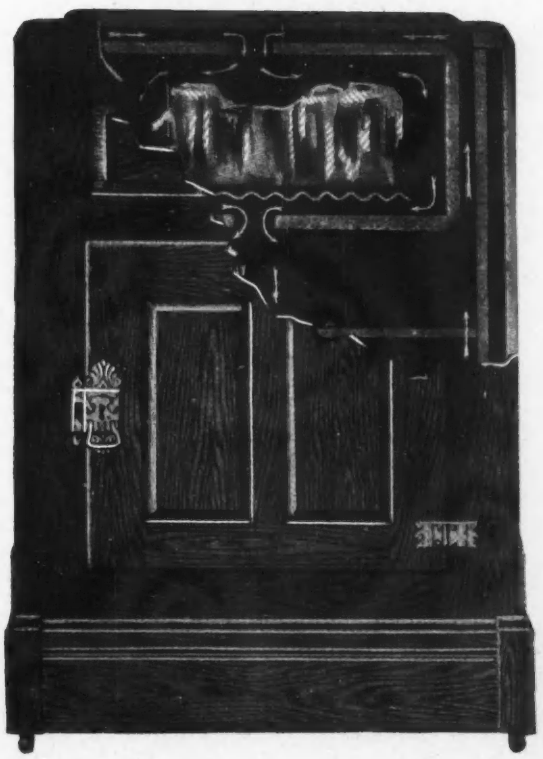
MISCELLANEOUS

Tuscon, Ariz.—Architects Bristow & Lyman, San Diego, have completed plans for the three-story, reinforced concrete agricultural building for the University of Arizona, to cost about $125,000.

Nogales, Ariz.—Architect H. O. Jaasted, Tuscon, has completed plans for the erection of a town hall at this place. It will cost $22,000.

Victoria, B. C.—Architect J. C. N. Keith, Victoria, has completed plans for a one-story and basement church building for the First Presbyterian Church, to cost about $50,000. The building will be of the Gothic style, with exterior of vitrified brick and white cut stone.

Vancouver, B. C.—Architect A. Campbell Hope, 603 Hastings W, has completed plans for a stone and brick sub-postoffice building in the Mount Pleasant District to cost $100,000.



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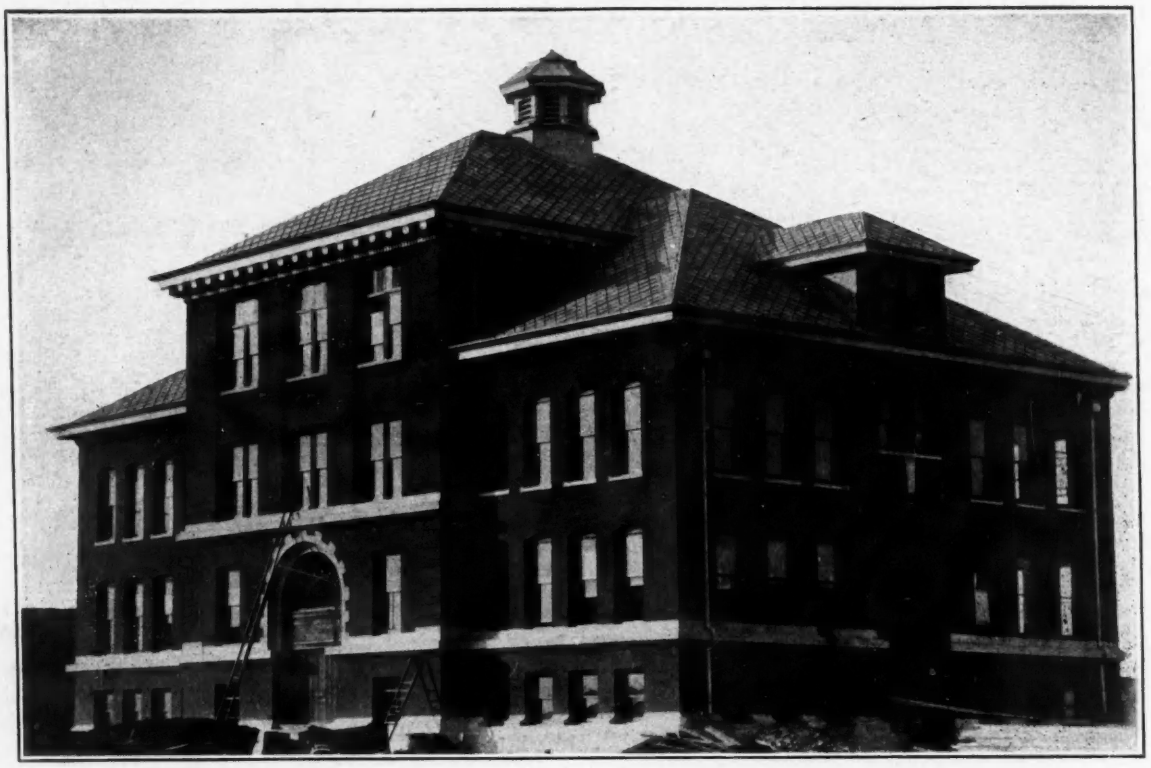

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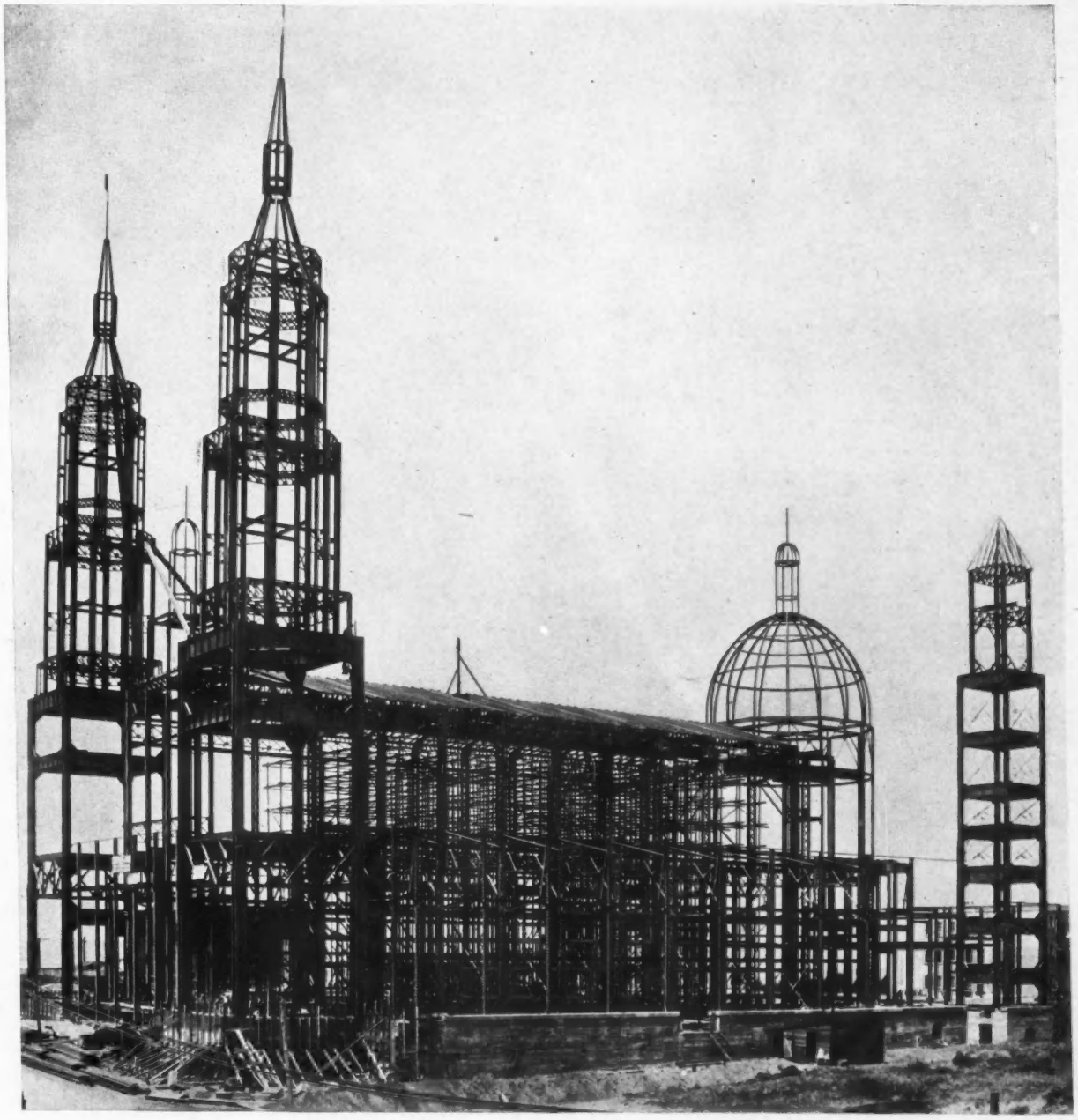

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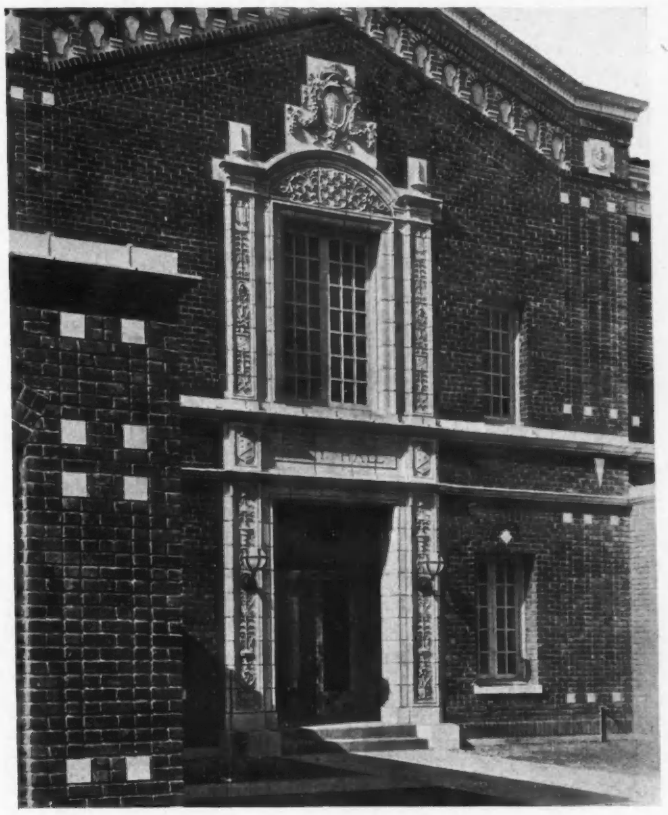

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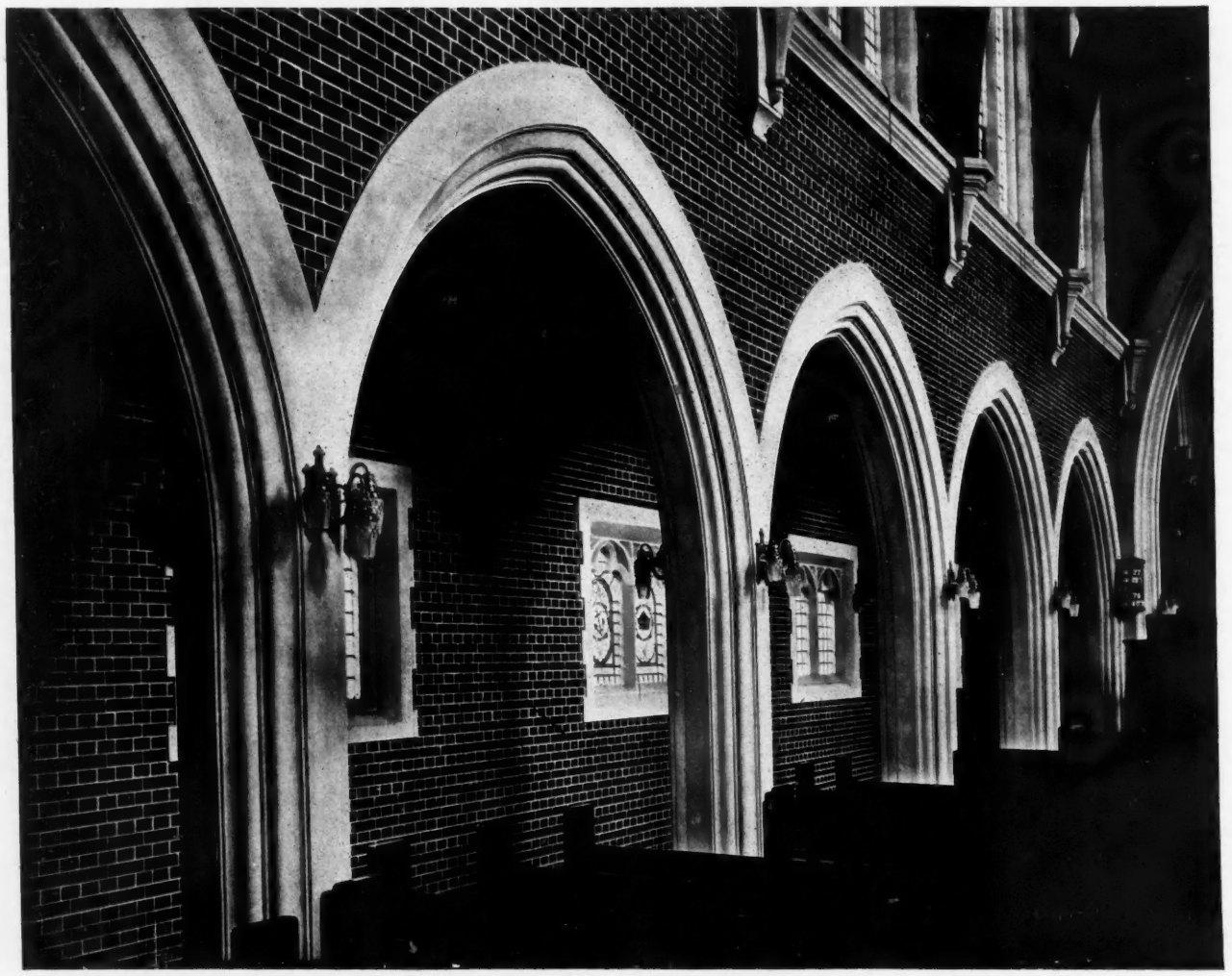

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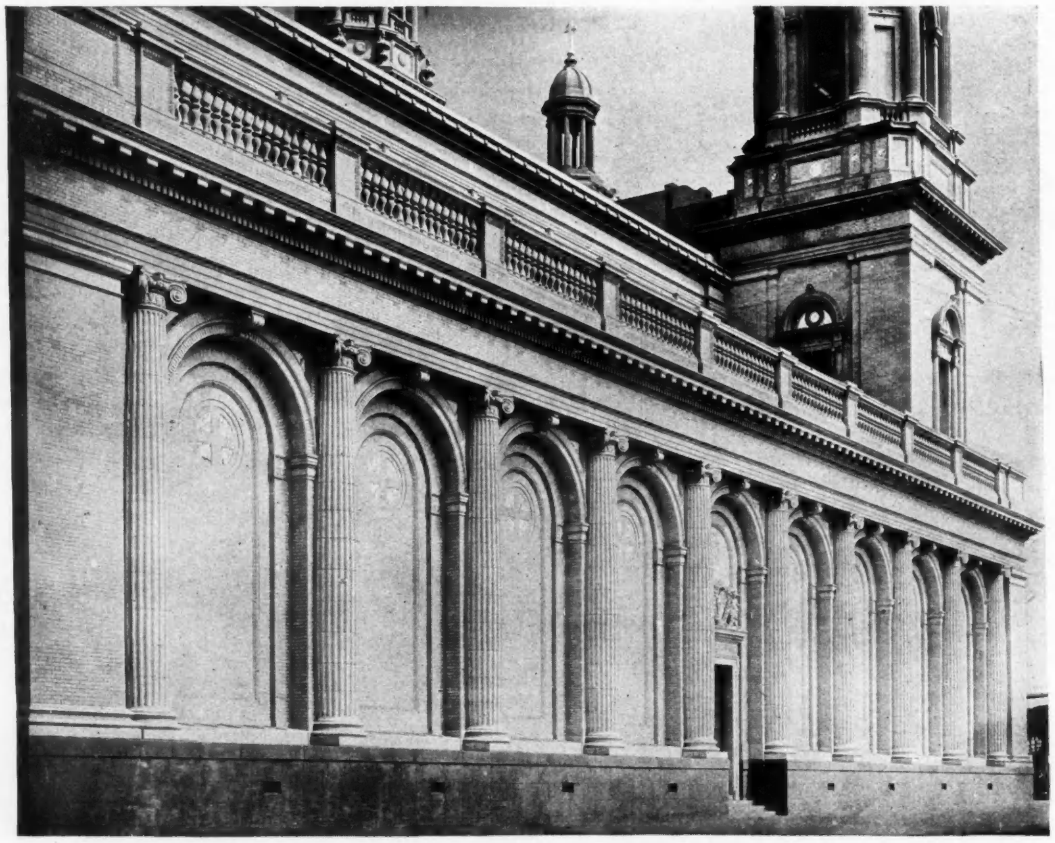

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